

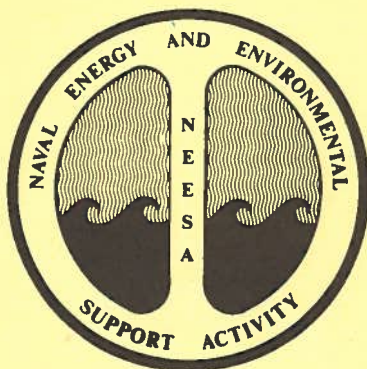
N00204.AR.002279  
NAS PENSACOLA  
5090.3a

PRELIMINARY ASSESSMENT REPORT CORRY STATION NAS PENSACOLA FL  
1/1/1992  
U S NAVY



PRELIMINARY ASSESSMENT  
REPORT

NAVAL TECHNICAL TRAINING CENTER CORRY STATION  
ESCAMBIA COUNTY, FLORIDA  
NEESA 13-226PA  
EPA-170024408  
January 1992



NAVAL ENERGY AND ENVIRONMENTAL  
SUPPORT ACTIVITY

Port Hueneme, California 93043

00001  
00002  
00003  
00004

PRELIMINARY ASSESSMENT  
REPORT

NAVAL TECHNICAL TRAINING CENTER CORRY STATION  
ESCAMBIA COUNTY, FLORIDA  
NEESA 13-226PA  
EPA-170024408  
January 1992

PA-Score 1.0 Scoresheets  
NTTC Corry Station - 01/30/92

Page: 1

OMB Approval Number: 2050-0095  
Approved for Use Through: 1/92

POTENTIAL HAZARDOUS  WASTE SITE  PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: FL	CERCLIS Number: 170024408
	CERCLIS Discovery Date: 12/22/91	

1. General Site Information

Name: NTTC Corry Station		Street Address: Code 1040			
City: PENSACOLA	State: FL	Zip Code: 32511	County: ESCAMBIA	Co. Code:	Cong. Dist:
Latitude: 30° 22' 24.0"	Longitude: 87° 17' 30.0"	Approx. Area of Site: 604 acres		Status of Site: Active	

2. Owner/Operator Information

Owner: NTTC Corry Station			Operator: Same		
Street Address: Code 1040			Street Address: Same		
City: Pensacola			City: Same		
State: FL	Zip Code: 32511	Telephone: 904-922-6460	State: FL	Zip Code:	Telephone:
Type of Ownership: Federal Agency Department of Defense			How Initially Identified: RCRA/CERCLA Notification		

POTENTIAL HAZARDOUS  WASTE SITE  PRELIMINARY ASSESSMENT FORM		IDENTIFICATION	
		State: FL	CERCLIS Number: 170024408
		CERCLIS Discovery Date: 12/22/91	
3. Site Evaluator Information			
Name of Evaluator: SCOTT HORWITZ		Agency/Organization: NEESA/NAVY	Date Prepared: 12/91
Street Address: CODE 112E3		City: PORT HUENEME	State: CA
Name of EPA or State Agency Contact: Region IV		Telephone: 404-347-4727	
Street Address: 345 Courtland Street NE		City: Atlanta	State: GA
4. Site Disposition (for EPA use only)			
Emergency Response/Removal Assessment Recommendation: No  Date: 1/92	CERCLIS Recommendation: Higher Priority SI  Date: 1/92	Signature:  Name: Scott L. Horwitz Position: Environmental Engineer	

POTENTIAL HAZARDOUS  WASTE SITE  PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: FL	CERCLIS Number: 170024408
	CERCLIS Discovery Date: 12/22/91	

5. General Site Characteristics

Predominant Land Uses Within 1 Mile of Site: Commercial Residential Forest/Fields DOD	Site Setting:  Urban	Years of Operation: Beginning Year: 1928  Ending Year: 1992  X Unknown
Type of Site Operations: DOD		Waste Generated: Onsite
		Waste Deposition Authorized By: Present Owner
		Waste Accessible to the Public No
		Distance to Nearest Dwelling, School, or Workplace: 3000 Feet

6. Waste Characteristics Information

Source Type Contaminated soil	Quantity 5.00e+03 cu ft	Tier V	General Types of Waste: Metals Pesticides/Herbicides Other: Petroleum Product.
Tier Legend C = Constituent    W = Wastestream V = Volume        A = Area			Physical State of Waste as Deposited Solid Liquid

<p>POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM</p>		IDENTIFICATION															
		State: FL	CERCLIS Number: 170024408														
		CERCLIS Discovery Date: 12/22/91															
7. Ground Water Pathway																	
<p>Is Ground Water Used for Drinking Water Within 4 Miles: Yes</p> <p>Type of Ground Water Wells Within 4 Miles: Municipal</p>	<p>Is There a Suspected Release to Ground Water: Yes</p>	<p>List Secondary Target Population Served by Ground Water Withdrawn From:</p> <table> <tr> <td>0 - 1/4 Mile</td> <td>0</td> </tr> <tr> <td>&gt;1/4 - 1/2 Mile</td> <td>0</td> </tr> <tr> <td>&gt;1/2 - 1 Mile</td> <td>0</td> </tr> <tr> <td>&gt;1 - 2 Miles</td> <td>0</td> </tr> <tr> <td>&gt;2 - 3 Miles</td> <td>0</td> </tr> <tr> <td>&gt;3 - 4 Miles</td> <td>0</td> </tr> <tr> <td>Total</td> <td>0</td> </tr> </table>		0 - 1/4 Mile	0	>1/4 - 1/2 Mile	0	>1/2 - 1 Mile	0	>1 - 2 Miles	0	>2 - 3 Miles	0	>3 - 4 Miles	0	Total	0
0 - 1/4 Mile	0																
>1/4 - 1/2 Mile	0																
>1/2 - 1 Mile	0																
>1 - 2 Miles	0																
>2 - 3 Miles	0																
>3 - 4 Miles	0																
Total	0																
<p>Depth to Shallowest Aquifer: 3 Feet</p> <p>Karst Terrain/Aquifer Present: No</p>	<p>Have Primary Target Drinking Water Wells Been Identified: Yes</p> <p>Primary Target Population: 18140</p>																
	<p>Nearest Designated Wellhead Protection Area: None within 4 Miles</p>																

POTENTIAL HAZARDOUS  WASTE SITE  PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: FL	CERCLIS Number: 170024408
	CERCLIS Discovery Date: 12/22/91	

8. Surface Water Pathway

Part 1 of 4

Type of Surface Water Draining Site and 15 Miles Downstream: Lake Bay Ocean	Shortest Overland Distance From Any Source to Surface Water:  10560 Feet 2.0 Miles
Is there a Suspected Release to Surface Water: No	Site is Located in: >10 yr - 100 yr floodplai

8. Surface Water Pathway

Part 2 of 4

Drinking Water Intakes Along the Surface Water Migration Path: No
Have Primary Target Drinking Water Intakes Been Identified: No
Secondary Target Drinking Water Intakes: None

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: FL	CERCLIS Number: 170024408
	CERCLIS Discovery Date: 12/22/91	

8. Surface Water Pathway

Part 3 of 4

Fisheries Located Along the Surface Water Migration Path: No

Have Primary Target Fisheries Been Identified: No

Secondary Target Fisheries:  
None

8. Surface Water Pathway

Part 4 of 4

Wetlands Located Along the Surface Water Migration Path? (y/n) No

Have Primary Target Wetlands Been Identified? (y/n) No

Secondary Target Wetlands:  
None

Other Sensitive Environments Along the Surface Water Migration Path: No

Have Primary Target Sensitive Environments Been Identified: No

Secondary Target Sensitive Environments:  
None

POTENTIAL HAZARDOUS  WASTE SITE  PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: FL	CERCLIS Number: 170024408
	CERCLIS Discovery Date: 12/22/91	

9. Soil Exposure Pathway

Are People Occupying Residences or Attending School or Daycare on or Within 200 Feet of Areas of Known or Suspected Contamination: No

Number of Workers Onsite: None

Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination: No

10. Air Pathway

Total Population on or Within:	Is There a Suspected Release to Air: No
Onsite 0	
0 - 1/4 Mile 0	Wetlands Located
>1/4 - 1/2 Mile 0	Within 4 Miles of the Site: No
>1/2 - 1 Mile 0	
>1 - 2 Miles 0	Other Sensitive Environments Located
>2 - 3 Miles 0	Within 4 Miles of the Site: No
>3 - 4 Miles 0	
Total 0	

Sensitive Environments Within 1/2 Mile of the Site:  
None

DRAFT  
PRELIMINARY ASSESSMENT  
REPORT

Activity Name: Naval Technical Training Center (NTTC) Corry Station  
Address: Escambia County, Florida

UIC: N63082

EPA Region: 4

Latitude: 30° 22'24"N      Longitude: 87° 17'30"W

Preliminary Assessment Team Members

Joseph E. Vogel, P.E.  
Mark Kram, Hydrogeologist  
Scott Horwitz, Environmental Engineer

Prepared by:

Naval Energy and Environmental Support Activity  
Port Hueneme, CA 93043

NEESA 13-226PA  
January 1992

Priority for Site Inspection: High.

## 1.0 INTRODUCTION.

### **ABSTRACT:**

NTTC Corry Station was used as an Outlying Landing Field (OLF) for NAS Pensacola from 1928-1958. During that time the base used large amounts of aviation gasoline, oil products, and solvents. Presently, the base is being used for training personnel in Cryptology, Electronic Warfare, Photography, and optical and instrument repair. Thus, the base uses small amounts of hazardous materials for general maintenance, and for the potable water treatment plant. The base does not treat, or dispose of hazardous wastes. All hazardous material and waste are managed through the Public Works Department of NAS Pensacola. During the PA Investigation, three areas of environmental concern were discovered.

A refueling system for aircraft consisted of five 12,000 gallon underground storage tanks. The tanks were connected to 8,000 feet of fuel lines. The fuel lines were used in connection with 56 service pits. The USTs were removed, but it is unknown if the fuel lines, and or pits were removed also.

During the mid 1950s, Public Works encountered a significant amount of petroleum when they were conducting a subsurface operation. According to the fire department, the petroleum was pumped out for three days. It is suspected that the source of the product was the gasoline refueling system.

Presently, NTTC Corry does not own or operate landfills on or off the base. However, it is suspected that the base did operate at least one landfill in the past. The suspected landfill is located in the north of Building 1099.

Water is supplied to NTTC Corry Station and NAS Pensacola from well fields located at Corry. Previous monitoring of the ground water supply wells indicated that the water supply contains low levels of the pesticide Dieldrin. Currently the Engineering Command at Southern Division is proposing a plan to handle the situation.

An SI is recommended for three of the areas listed above; the Refueling System, Suspected Landfill north of Building 1099, and the Free Product Area.

## Table of Contents

Section		Page
1.0	Abstract.....	1.1
2.0	Authority and Scope.....	2.1
3.0	Activity Description.....	3.1
3.1	Activity Location.....	3.1
3.2	Activity Mission & History.....	3.1
3.3	Surrounding Area.....	3.3
3.4	Climate.....	3.3
3.5	Vegetation and Wildlife.....	3.5
3.6	Topography.....	3.5
3.7	Hydrology.....	3.5
3.8	Soils.....	3.10
3.9	Geology and Hydrogeology.....	3.13
4.0	Findings.....	4.1
4.1	General Findings.....	4.1
4.2	Previous Hazardous Waste Generation, Storage, and Disposal.....	4.1
4.3	Underground Storage Tanks.....	4.1
4.3.1	Previous Underground Storage Tanks.....	4.1
4.3.2	Current Underground Storage Tanks.....	4.3
4.4	Landfills.....	4.6
4.4.1	Suspected Landfill .....	4.6
4.5	Dieldrin in Supply Wells.....	4.10
4.5.1	Well Information.....	4.10
4.5.2	Dieldrin Characteristics.....	4.10

4.5.3	Regulatory Considerations.....	4.10
4.5.4	Sampling Results.....	4.11
4.5.5	Conclusions.....	4.12
5.0	Area Specific Information.....	5.1
5.1	Area 1, Suspected Landfill .....	5.1
5.1.1	Potential Contamination Exposure Routes.....	5.2
5.1.2	Recommendations for Area 1.....	5.2
5.2	Area 2, Gasoline Service Trench.....	5.2
5.2.1	Potential Contamination Exposure Routes.....	5.2
5.2.1	Recommendations for Area 2.....	5.2
5.3	Area 3, Free Product Area.....	5.3
5.3.1	Potential Contamination Exposure Routes.....	5.3
5.3.1	Recommendations for Area 3.....	5.3
	References.....	5.4
	Appendix.....	A.1
	HRS Scoring.....	A.2

## List of Tables and Figures

Existing Land Use (Figure 1).....	3.2
Vicinity Map (Figure 2).....	3.4
Table of Endangered & Threatened Species (Table 1).....	3.6
Existing Topography (Figure 3).....	3.7
Basin Map of Perdido (Figure 4).....	3.8
Average Annual Runoff (Figure 5).....	3.9
Soil Map (Figure 6).....	3.11
Well & Cross Section (Figure 7).....	3.15
Geologic Cross Section B-B' (Figure 8).....	3.16
Geologic Cross Section Q-Q' (Figure 9).....	3.17
Geologic Cross Section C-C' (Figure 10).....	3.18
Geologic Sequence (Figure 11).....	3.19
Geologic Section Across Escambia & Santa Rose Counties (Fig 12).	3.20
Table of Operating Capacities for Wells (Table 2).....	3.22
Well Locations (Figure 13).....	3.23
Gasoline Service Pits & Lines (Figure 14).....	4.2
Free Product Area (Figure 15).....	4.4
UST Location (Figure 16).....	4.5
Table of Existing & Removed UST (Table 3).....	4.6
Location of Boring at Building 1099 (Figure 17).....	4.7
Table of Soil Conditions at Building 1099 (Table 4).....	4.8
Table of Soil Conditions at Building 1099 (Table 5).....	4.9
Table of Operation Capacities for Wells (Table 7).....	4.11
Table of Dieldrin Concentration in Supply Wells (Table 8).....	4.12

## 2.0 AUTHORITY AND SCOPE.

Section 211 of the Superfund Amendments and Reauthorization Act of 1986 (SARA 211) provides continued authority for the Department of Defense Environmental Restoration Program (DERP) and the Defense Environmental Restoration Account (DERA). The Navy Installation Restoration (IR) program is authorized by Chief of Naval Operations instruction (OPNAVINST) 5090.1 of Aug 1990. Naval Facilities Engineering Command (NAVFACENGCOM) manages the Navy program. NAVFACENGCOM tasked the Naval Energy and Environmental Support Activity (NEESA) to conduct a preliminary assessment (PA) for each Navy and Marine Corps facility listed on the Federal Facilities Hazardous Waste Compliance Docket as required by SARA 120.

Even though NTTC Corry is not on the federal facilities docket a PA was conducted following the guidelines listed in SARA.

PAs are conducted in accordance with the Preliminary Assessment Guidance for Fiscal Year 1988, OSWER DIRECTIVE 9345.0-01, U.S. Environmental Protection Agency, January 1988; and recommendations are consistent with the National Contingency Plan.

The PA begins with investigation and review of available records at NEESA and the cognizant NAVFACENGCOM Engineering Field Division. After the record search, the PA team visits the activity to complete documentation of past and present operations and disposal practices. With the assistance of the activity point of contact, the team tours the activity and interviews long term employees. If a potential threat to human health or the environment is present, further action is recommended.

### 3. ACTIVITY DESCRIPTION

3.1 Activity Location. NTTC Corry Station is located Escambia County and in the westernmost part of the Florida Panhandle and lies five miles west of downtown Pensacola and two miles north of the Pensacola Naval Air Station (NAS Pensacola). The main gate to NTTC is accessible from New Warrington Road which is a major north-south roadway located approximately one quarter mile to the east of NTTC's eastern boundary. The southern boundary of NTTC is defined by U.S. Highway 98 which is a major east-west arterial across the State of Florida. U.S. Highway 98 and Navy Boulevard both border NTTC Corry Station (U.S. Navy Master Plan).

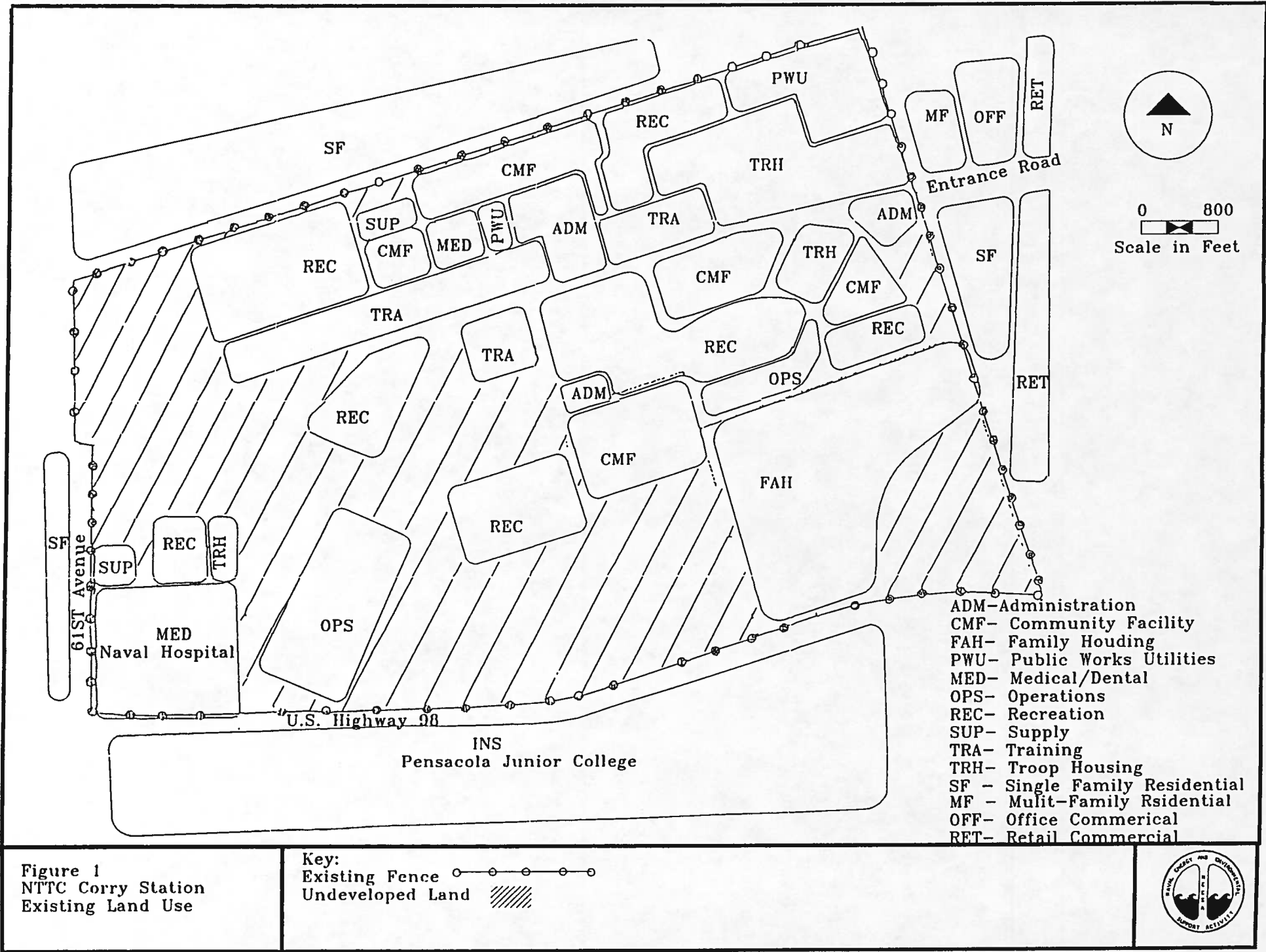
Corry Field covers 604 acres, with NTTC occupying the largest portion: 431.5 acres or 72 percent. NTTC shares the base with the Naval Hospital (42.5 acres), Family housing (88.5 acres) and the Navy Shopping Mall (41.7 acres) (U.S. Navy Master Plan).

3.2 Activity Mission and History. The Chief of Naval Air Training, headquartered at Naval Air Station (NAS) Pensacola, Florida, determined that new air space was needed to train Navy pilots. They required an area that was close enough to NAS Pensacola for logistics support but far enough away from the already congested skies over Pensacola. Thus, Corry Station was commissioned in 1928 as an Outlying Landing Field (OLF) for NAS Pensacola (U.S. Navy Master Plan).

During World War II and the Korean conflict, Corry Station operated as a training base for Naval aviators. In 1958, Corry Station was decommissioned as an auxiliary air field. Today, Corry Station is no longer used for aircraft operations, with the exception of the Naval hospital helicopter which is used only in emergencies (U.S. Navy Master Plan).

With a total site area of 604 acres, Corry Field is of sufficient size to accommodate a number of activities. Figure 1 shows the activities associated with the land use. Although the base has a hosts of tennates it has four primary functions: the Naval Technical Training Center (NTTC), the Naval Hospital, the Navy Shopping Mall and Corry Family Housing. The other functions are not controlled directly by the Naval Training Technical Training Center (U.S. Navy Master Plan).

NTTC occupying 431.5 acres, is the host activity at Corry Station. NTTC was established at Corry Station in 1961 following the decommissioning of Corry Field as an auxiliary air field in 1958. The command was redesignated as the Naval Technical Training Center in 1973 when responsibility for electronic warfare training and the Naval School for Photography were added to the command's assigned mission (U.S. Navy Master Plan).



The assigned mission of NTTC is to administer those schools assigned by the Chief of Naval Education and Training to train officers and enlisted personnel of the Navy and personnel of other services and agencies in cryptology, electronic warfare, photography and optical and instrument repair (U.S. Navy Master Plan).

Navy medicine has been practiced in the Pensacola area since the early nineteenth century. The Naval Aerospace and Regional Medical Center was established in the southwest quadrant of Corry Field in March, 1976. This command was redesignated as the Naval Hospital, Pensacola in March 1983 (U.S. Navy Master Plan).

The Navy Public Works Center (NPWC) in Pensacola, manages the family housing program for the Pensacola Naval Complex. The Family Housing Division of NPWC provides housing referral services to all incoming personnel. The Family Housing at Corry Station covers an area of 88.5 acres, which lies in the southeast corner of Corry Field (U.S. Navy Master Plan).

The Navy Shopping Mall, which encompass 41.7 acres, hosts a number of retail activities. The Naval Exchange and the Commissary are available for military personnel to purchase any number of items. A gas station for refueling private and commercial vehicles is also located in the Mall (U.S. Navy Master Plan).

3.3 Surrounding Area. Escambia County is Florida's western most county and lies between the State of Alabama to the west and Santa Rosa County, Florida to the east (See Figure 2). The State of Alabama also forms the northern boundaries of both counties and is approximately 50 miles north of their southern limits at the Gulf of Mexico shoreline. Pensacola is the county seat of Escambia County and is the largest city in both land area and population as well as the leading industrial center of western Florida. The city occupies 24 square miles, situated on Pensacola Bay seven miles from the Gulf of Mexico and 15 miles east of the Alabama border (U.S. Navy Master Plan).

Commercial and industrial development is concentrated in downtown Pensacola. However, strip commercial developments and outlying centers, generally at major highway intersections or in neighborhood service clusters, provide a dispersed pattern of retail and service commercial land uses.

The population densities surrounding the base are relatively high because of the developed commercial, industrial, and recreational activities. The population within five miles of Corry Station is approximately 107,032 with an average density of 1,363 persons per square mile (Pensacola Regional Planning Council). See appendix I for calculations.

3.4 Climate. NTTC Corry Station is located in a region of humid, subtropical climate with an average annual temperature of 68 degrees

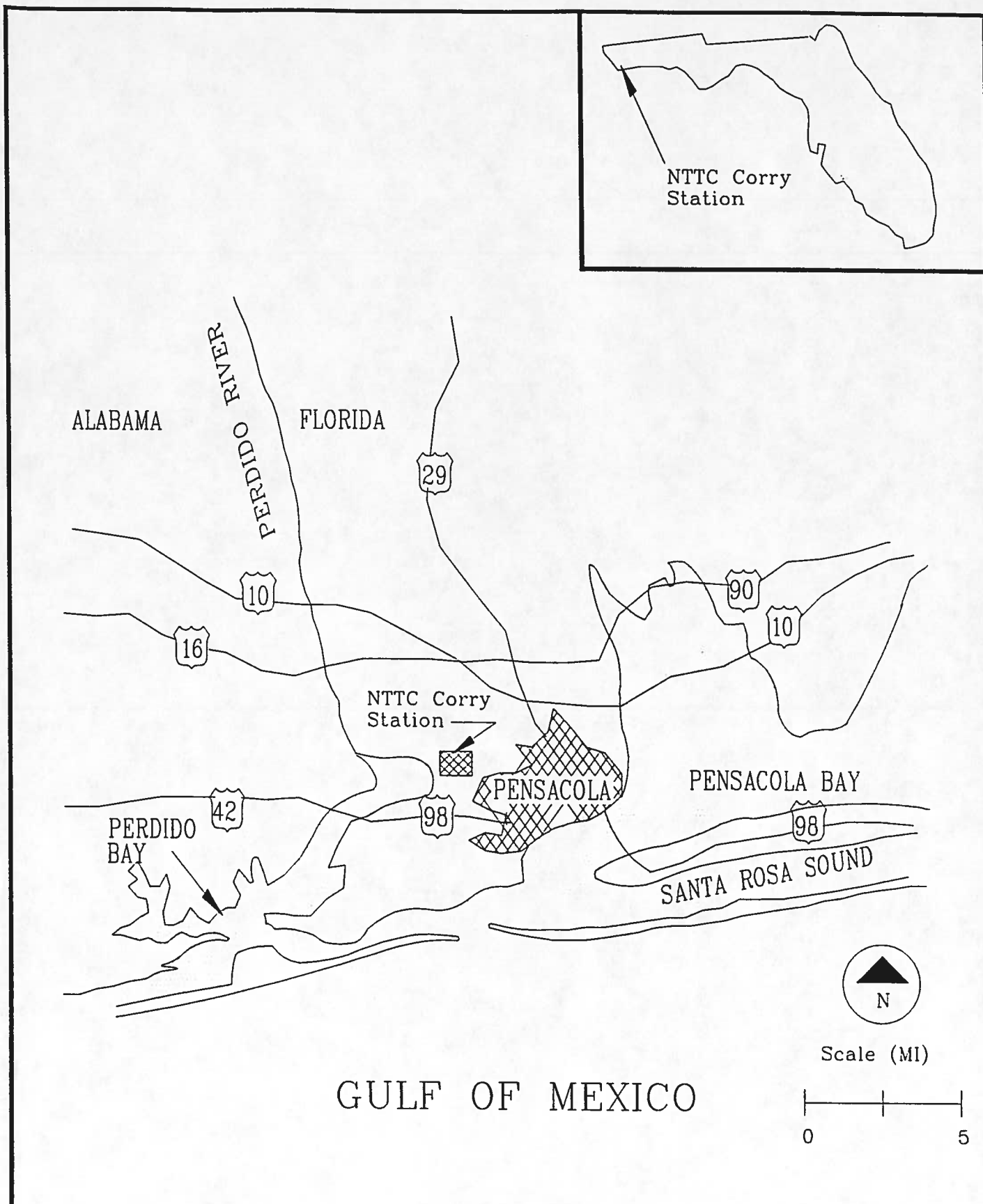




Figure 2  
NTTC Corry Station  
Vicinity Map

Key:

-  HIGH WAY
-  WATER WAYS



Fahrenheit. Average annual precipitation is 61 inches. The wettest month is July, which averages 7.2 inches of rain, and the driest month is November which averages 3.4 inches of rain. Heavy thunderstorms and flash floods are often a problem in the area when hurricanes and tropical storms enter the Gulf of Mexico (SOUTH DIV NTTC Corry Master Plan).

3.5 Vegetation and Wildlife. Table 1 lists the species which are threatened or endangered in the Pensacola area. At present, sightings of any of the animals or plants listed in Table 1 have not occurred at NTTC Corry Station. Water bodies are not within the boundaries of the base nor does the base border any bodies of water.

3.6 Topography. NTTC Corry Station resides in the Coastal Lowland topographic division of the Coastal Plain physiographic division of the United States. The Coastal Lowlands consist of relatively undissected nearly level plains lying less than 100 feet above sea level.

Topography of Corry Station ranges in elevation from approximately 30 feet along a north-central terrace on the property to approximately 10 feet. Topography is level to gently sloping (less than 8% slope).

3.7 Hydrology. For most of the property, runoff is generally towards the south and southwest through a network of culverts. Swampy areas exist in the south-central and southwestern portion of the property.

The drainage basin of concern consists of a well-developed network of waterways which drains Escambia and Santa Rosa Counties (Figure 4). The Perdido River forms the Florida-Alabama line along the west margin of the Panhandle and flows southward into Perdido Bay. The Perdido River Basin consists of 925 square miles (236 in Escambia and Santa Rosa counties) of area (Musgrove et. al., 1965). Average flow from the basin is 1,120 million gallons per day mgd (284 mgd from Escambia and Santa Rosa counties). Escambia River, the largest stream in the area, flows southward from Alabama on the north, dividing Escambia County from Santa Rosa County and empties into Escambia Bay approximately 2 miles from Corry Station. The Escambia River Basin consists of 4,233 square miles (410 in Escambia and Santa Rosa counties) of area (Musgrove et. al., 1965). Average flow from the basin is 4,540 mgd (556 mgd from Escambia and Santa Rosa counties). Streams on the east side of the Escambia River (north of Molino) are relatively short with a random dendritic pattern. The streams on the west side (where Corry Station is located) are many times longer and have fairly straight, parallel channels that trend southeastward, reminiscent of trellis drainage. Hundreds of small ponds dot Escambia and Santa Rosa counties. These ponds are apparently accumulations of rainwater held up by underlying clay or iron-cemented sandstone ("hardpan").

Approximate average annual runoff, in inches, from areas within Escambia and Santa Rosa counties is presented in Figure 5. There are

TABLE 1  
Endangered and Threatened Species

Plants

Scientific Name	Common Name
<i>Drosera intermedia</i>	Water sundew
<i>Epigaea repens</i>	Trailing arbutus
<i>Hexastylis arifolia</i>	Heartleaf
<i>Kalmia latifolia</i>	Mountain Laurel
<i>Lilium iridollaej</i>	Panhandle Lilly
<i>Polygonella macrophylla</i>	Large-Leaved Jointweed
<i>Rhodoendron austrinum</i>	Orange Azalea
<i>Sarracenia luecophylla</i>	White-Top Pitcher Plant
<i>Sarracenia rubra</i>	Red-Flowered Pithcer Plant
<i>Stewartia malacodendron</i>	Silky Camellia

Endangered Fish

<i>Fundulus jenkinsi</i>	Saltmarsh Topnimow
--------------------------	--------------------

Amphibians and Reptiles

<i>Alligator mississippiensis</i>	American Alligator
<i>Drymarchon corias couperi</i>	Eastern Indigo Snake
<i>Gopherus polyphemus</i>	Gopher Tortoise
<i>Rana areolata aseopus</i>	Florida gopher Frog
<i>Macrocllemys temminki</i>	Alligator Snapping Turtle

Mammals

<i>Ursus americanus floridanus</i>	Florida Black Bear
------------------------------------	--------------------

Birds

<i>Dendroica dominica stoddardi</i>	Stoddard's Yellow-Throated Warbler
<i>Egretta thula</i>	Snowy Egret
<i>Falco peregrinus tundrius</i>	Arcitic Peregrine
	Falcon
<i>Falco sparverius paulus</i>	Southeastern Kestrel

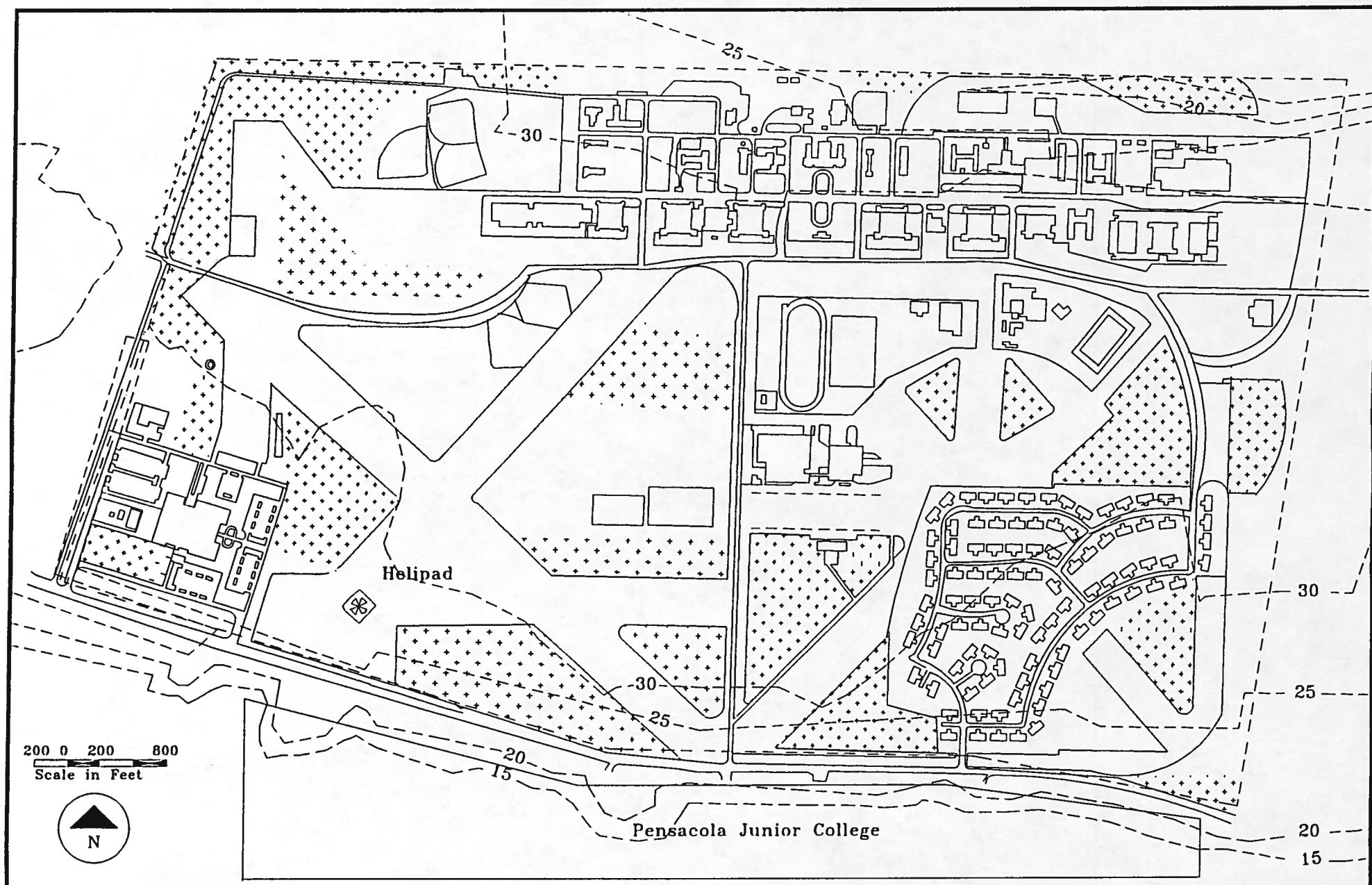


Figure 3  
NTTC Corry Station  
Existing Topography

Key:  
Forest +  
Navy Boundary ---  
Contour Line - - -



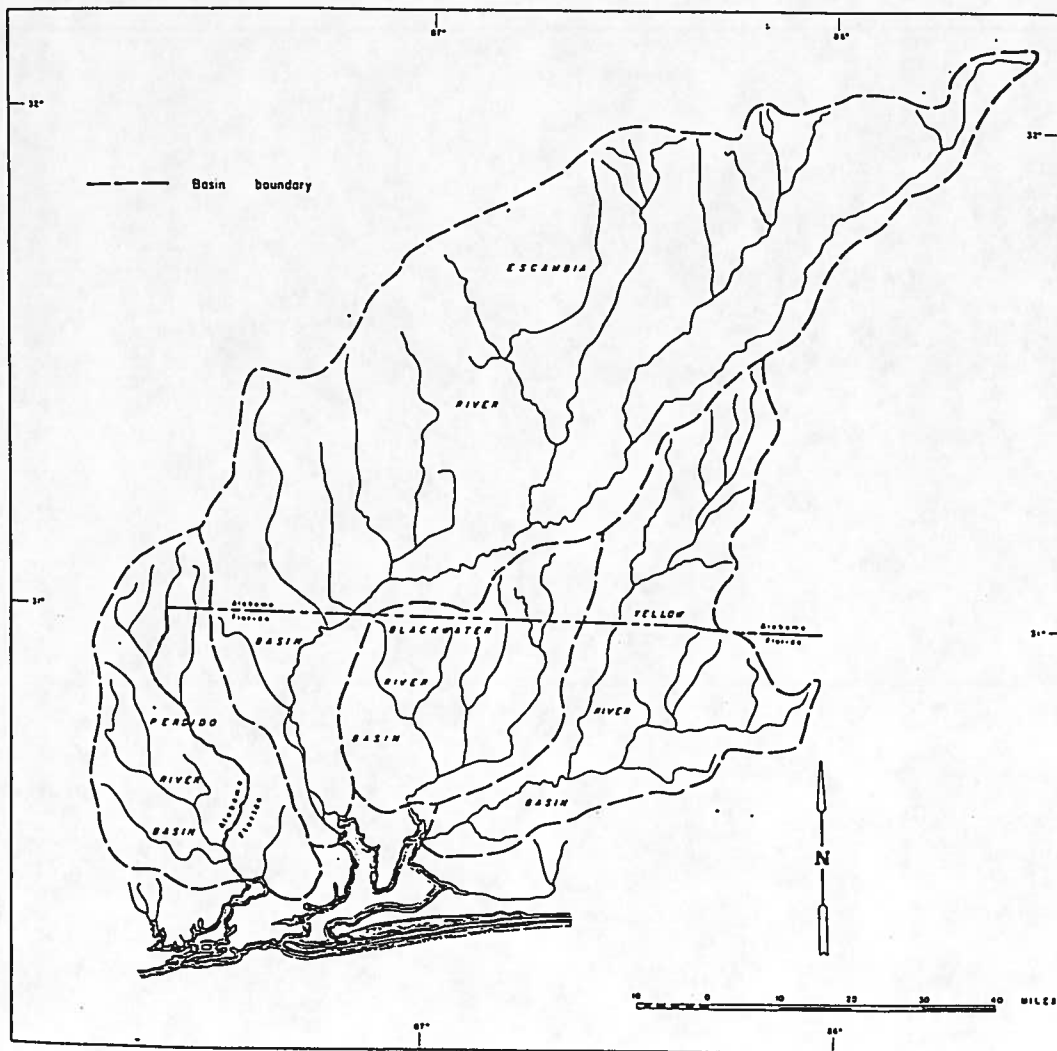


Figure 4  
NTTC Corry Station

Key: Basin Map of Perdido, Escambia  
Blackwater, & Yellow Rivers  
(Modified After Musgrove ET.  
AL., 1965).



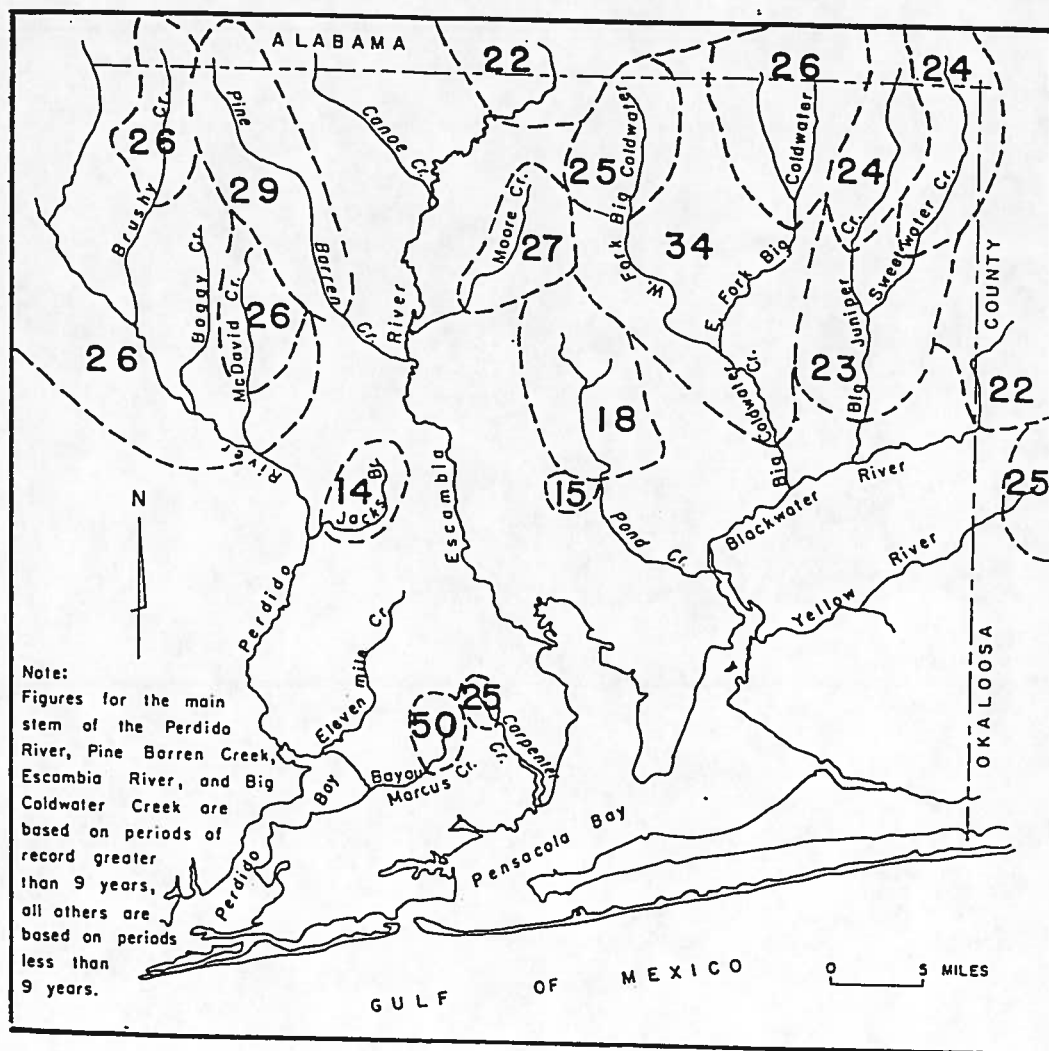


Figure 5  
NTTC Corry Station

Key: Approximate Average Annual  
Runoff (Inches) From Areas  
Within Escambia & Santa Rosa  
Counties (Modified After  
Musgrove ET. AL., 1965).



The surface waters of Escambia and Santa Rosa counties are of excellent quality (with respect to total dissolved solids), except in the coastal reaches where tides bring salt water up the streams. The Escambia River coming out of Alabama brings water of higher mineral content (approximately 100 ppm). However, this mineralization is diluted somewhat by the lower minerals-content waters of the Florida tributaries (Musgrove et. al., 1965).

Only a small part of the surface water of the Escambia and Santa Rosa County areas are presently being used. Recreation, shipping, cooling and waste disposal are the major uses at present (Musgrove et. al., 1965). These uses are nonconsumptive in that no water is permanently removed from the water body. Water used for cooling is removed from a stream and returned with only a slight rise in temperature. There are no known major surface water consumptive uses within the area, and the full potential of the surface waters is far from being realized (Musgrove et. al., 1965).

Most uses of surface water are within the southern half of the area. Principal among these are recreation and shipping. No known drinking water uses of surface waters have been identified.

**3.8 Soils.** The majority of the following soil information was obtained from the 1991 U.S. Department of Agriculture draft soil survey of Escambia County, Florida. This report, which is an update to the 1960 survey, has not been publicly released. New nomenclature will be implemented at the time of release. Therefore, new labels as well as old symbols and labels will be utilized in this report.

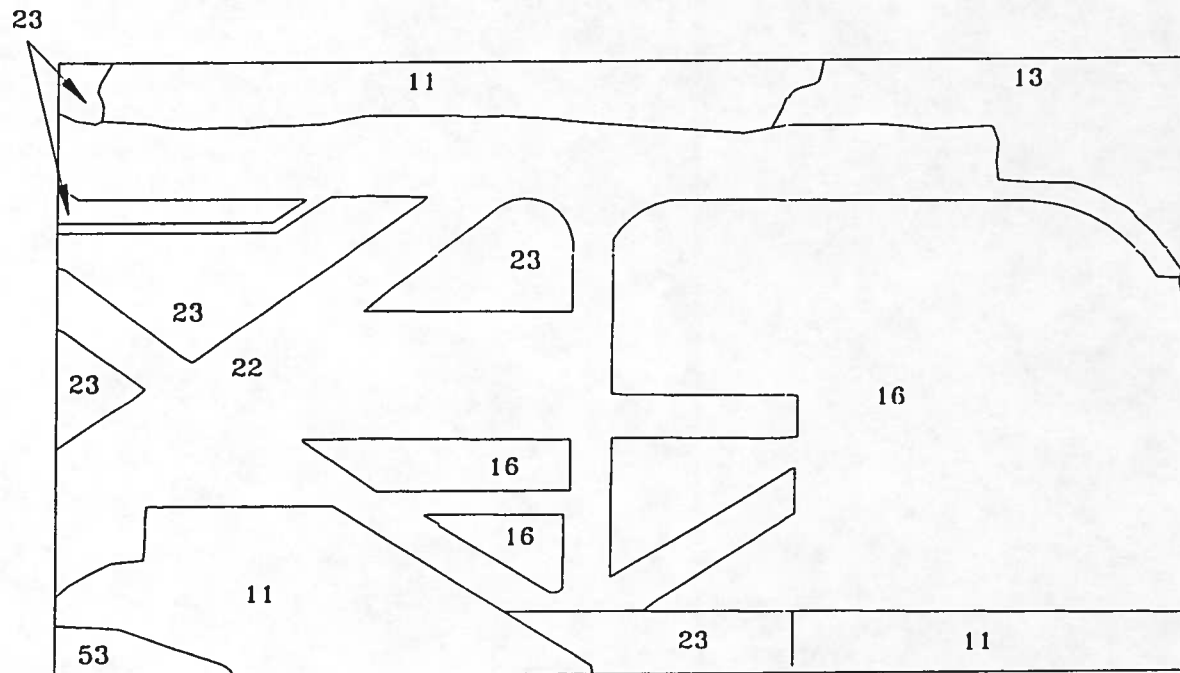
Figure 6 displays the soil configuration map as of 1991. Surface sediments in the Corry Station area are classified with the Arents, Hurricane, Lakeland, Pickney, Robertsedale and Urban Land associations.

Arents, filled (16; formerly Coastal Dune Land and Beach - Cf) has a 0 to 3 percent slope. This unit consists of sand deposited by wave action along the coast. Drainage is classified as excessive. The profile description is as follows:

0 to 42 inches - white to grayish-brown sand; single grained; permeability of 10+ inches per hour; pH of 7.0+.

Hurricane Sand (11; formerly Klej sand - Ke) has a 0 to 3 percent slope. The surface soil varies from dark gray to very dark grayish-brown in color and from 3 to 6 inches in thickness. Drainage is classified as somewhat poor. The subsoil layers range from brownish-yellow to yellow-brown sands and contain various amounts yellowish-red, strong brown, and yellow mottling. The profile description is as follows:

0 to 4 inches - very dark gray loamy sand; very friable; loose and single grained; structureless; permeability of 5 to 10



- 11 Hurricane Sand
- 13 Lakeland Sand
- 16 Arents, filled
- 22 Urban Land
- 23 Pickney Sand
- 53 Robertsdale Sandy Loam



Scale (FT)  
0 1000

Figure 6  
NTTC Corry Station  
Soil Map  
(Modified After U.S.D.A 1991)



- inches per hour; pH of 4.5 to 5.5.
- 4 to 12 inches - dark grayish-brown sand; loose and single grained; structureless; permeability of 5 to 10 inches per hour; pH of 4.5 to 5.5.
- 12 to 28 inches - pale-yellow sand faintly mottled with a few medium areas of olive yellow, brownish-yellow, and white; loose and single grained; structureless; permeability of 10+ inches per hour; pH of 4.5 to 5.0.
- 28 to 42 inches - brownish-yellow sand with common, medium, distinct mottles of yellowish red, strong brown, and yellow lenses of white; loose and single grained; structureless; permeability of 10+ inches per hour; pH of 4.5 to 5.0.

Lakeland Sand, level to very gently sloping phase (13; formerly Lakeland sand - Lj and Lk), has a 0 to 5 percent slope. This soil has a grayish-brown surface soil that merges with the brownish-yellow loamy fine sand of the subsoil. Drainage is classified as somewhat excessive. The surface soil ranges from dark grayish-brown to yellowish-brown in color and from 2 to 4 inches in thickness. This soil is underlain by materials of finer texture below 42 inches and, in most places, within 72 inches. The profile description is as follows:

- 0 to 3 inches - dark grayish-brown sand; loose and single grained structureless; contains small amounts of organic matter; permeability of 10+ inches per hour; pH of 5.0 to 6.0.
- 3 to 10 inches - yellowish-brown sand; loose and single grained; structureless; permeability of 10+ inches per hour; pH of 5.0 to 6.0.
- 10 to 42 inches - brownish-yellow sand; very friable; loose and single grained; structureless; permeability of 5 to 6.0 inches per hour; pH of 5.0 to 5.5.

Pickney Sand (23 - filled; formerly Rutlege sand - Rs and Plummer fine sand - Pc), has a 0 to 2 percent slope. These soils formed under poor drainage from thick beds of acidic sandy materials. The surface soil contains copious amounts of organic material. The surface soil is black and varies from 10 to 14 inches in thickness. Drainage is classified as poor. The subsurface horizons range from gray to dark gray. These soils are common in areas of shallow water table and it is generally normal for water to stand on the surface for long periods during rainy seasons. The profile description is as follows:

- 0 to 12 inches - black sand; very friable; weak fine crumb structure; permeability of 5 to 10 inches of water per hour; pH of 4.5 to 5.5.
- 12 to 32 inches - dark-gray sand; very friable; weak fine crumb structure; permeability of 10+ inches of water per hour; pH of 4.5 to 5.5.
- 32 to 42 inches - light brownish-gray sand; loose and single

grained; permeability of 10+ inches of water per hour; pH of 4.4 to 5.5.

Robertsdale Sandy Loam (53; formerly Angie fine sandy loam - Aa), has a 1 to 2 percent slope. The surface soil varies from very dark gray to grayish-brown in color and from 4 to 6 inches in thickness. Drainage is classified as good. The subsoil is olive yellow to brownish yellow, with red and gray in the lower horizons. Depth to the layer of firm fine sandy clay loam varies considerably, and in places the soil is friable to a depth of approximately 22 inches. The profile description is as follows:

- 0 to 4 inches - grayish-brown fine sandy loam; friable; weak fine crumb structure; permeability of 2.5 to 5 inches of water per hour; pH of 4.5 to 5.5.
- 4 to 10 inches - light yellowish-brown fine sandy loam; friable; weak fine crumb structure; permeability of 2.5 to 5 inches of water per hour; pH of 4.5 to 5.5.
- 10 to 20 inches - yellow fine sandy clay loam with red and gray mottles; firm moderate subangular blocky structure; permeability of 0.2 to 0.8 inches of water per hour; pH of 4.5 to 5.2.
- 20 to 36 inches - yellow fine sandy clay loam with red and gray mottles; firm; moderate medium subangular blocky structure; permeability of 0.2 to 0.8 inches of water per hour; pH of 4.5 to 5.2.
- 36 to 42 inches - fine sandy clay mottled with gray, yellow, and red; firm; moderate medium subangular blocky structure; permeability of 0.05 to 0.2 inches of water per hour; pH of 4.5 to 5.0.

Urban Land (22) has a 0 to 3 percent slope and consists of regions that have been paved. Drainage is poor and runoff potential excessive. Permeability is generally less than 5 inches per hour.

### 3.9 Geology and Hydrogeology.

NTTC Corry Station resides along the western edge of the Florida Panhandle within the Coastal Plain Province. The Coastal Plain, a major physiographic division of the United States, extends eastward from Texas and northward as far as New York. It consists of Cretaceous to Recent age beds of sand, silt, limestone, and clay that dip gently seaward. Most of these sediments were deposited during higher stands of the sea as the Mississippi River system transported eroded debris southward. The Gulf Coast region of the United States is the landward side of the most active geosyncline in North America. The formations which make up the landward side of the geosyncline are all wedge-shaped, thickening rapidly from the outcrop gulfward to the south.

More precisely, NTTC Corry Station resides within the Coastal Lowlands topographic subdivision of the Coastal Plain which consists of relatively undissected, nearly level plains lying less than 100 feet above sea level (Marsh, 1966). It is situated along the north flank of the Mississippi Embayment which accounts for the characteristic southwestward dip of Cretaceous and younger strata (Figures 7, 8, 9, and 10).

Figure 11 describes the geologic sequence by a representative log of an oil test well near Pensacola. For the region of study, a thick sequence of sand, gravel, and clay extends from the surface to as much as 1000 feet deep. Nearly all wells in this area tap permeable sediments within this sequence - collectively referred to as the Sand and Gravel Aquifer (Musgrove et. al., 1965). In the northern half of Escambia County, the Sand and Gravel Aquifer lies on the upper limestone of the Floridan Aquifer, but in the southern part (where Corry Station resides), the two aquifers are separated by a thick clay unit of Miocene age which serves to confine the water that is present in the upper limestone of the Floridan Aquifer (Figure 12). An extensive clay bed, the Bucatunna Clay Member of the Byram Formation, underlies the upper limestone of the Floridan Aquifer and forms an aquiclude throughout the area. The lower limestone of the Floridan Aquifer underlies the Bucatunna and rests upon relatively impermeable clay and shale. Within the area, no fresh-water aquifers occur below the lower limestone of the Floridan Aquifer.

Since more than 99 percent of ground water utilized for drinking and industrial purposes in the region is obtained from the Sand and Gravel Aquifer and it is separated from the Floridan Aquifer by a relatively impermeable clay, most of the remaining discussion will focus on the characteristics of this important reservoir. For a detailed discussion of Floridan Aquifer characteristics, see Musgrove et. al., 1965.

Parts of the Sand and Gravel Aquifer have a rather high average porosity and permeability and are thus excellent reservoirs for ground water. The aquifer primarily consists of relatively insoluble quartz grains which accounts for the low mineral content and softness of this water. The ground water conditions are complicated by great lithologic variability due to facies changes during deposition. Ground water is under artesian pressure where lenses and layers of clay, sandy clay, or hardpan overlie a saturated permeable bed. Ground water is under non-artesian conditions where such clays or hardpan are absent or where the permeability is not completely saturated. It is not uncommon for a well to tap both artesian and non-artesian sources. Ground water in the Sand and Gravel Aquifer is derived almost entirely from rain falling in the area. Recharge is greatest where land is relatively flat. The aquifer is discharged by pumping, evapotranspiration, and seepage into streams, swamps, bays and the Gulf of Mexico (Trapp, 1972).

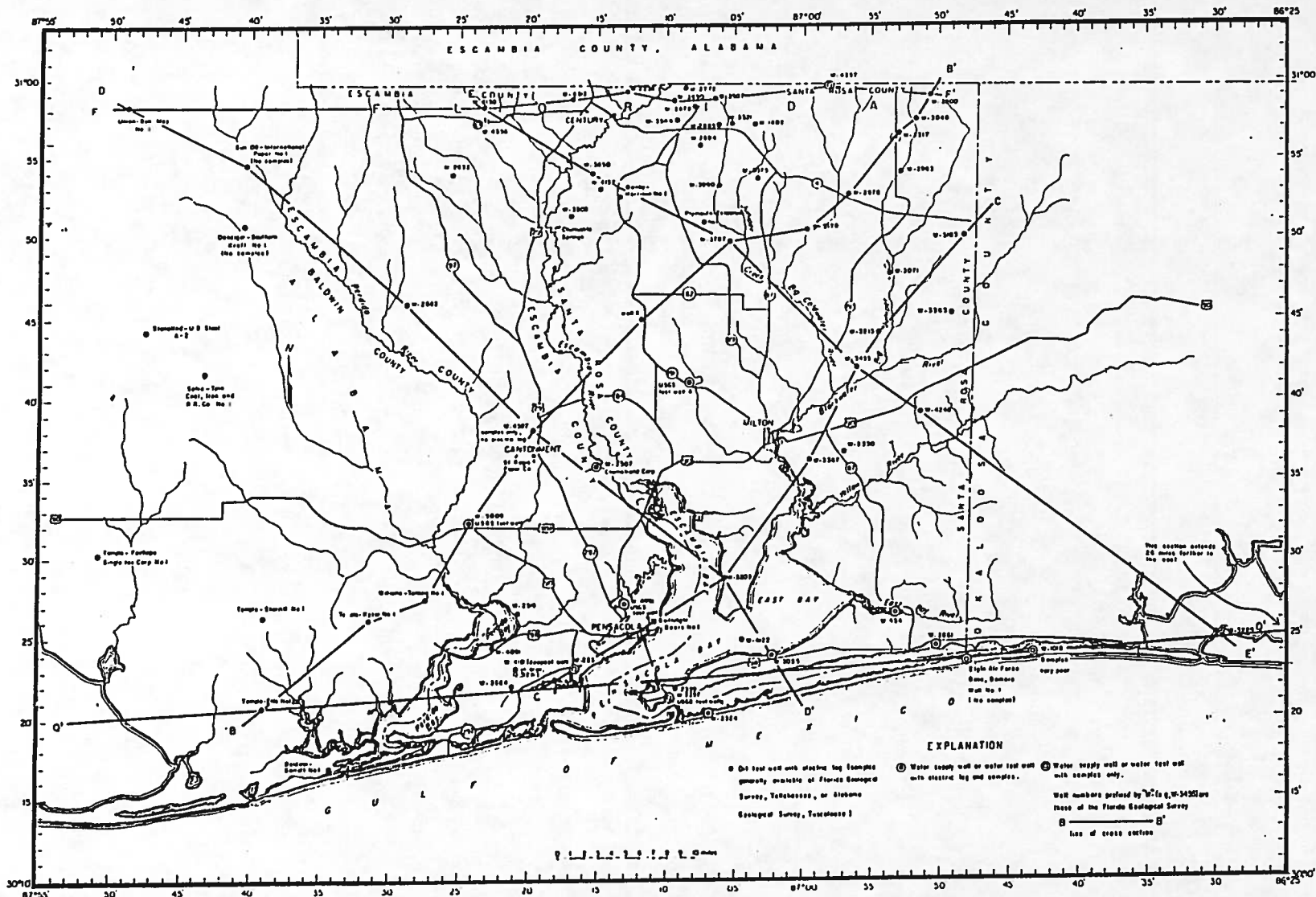


Figure 7  
NTTC Corry Station

Key:  
Map of Westernmost Florida and Southwestern Alabama Showing Location of Cross Section and Wells Used In This Report (Modified After Marsh 1966).



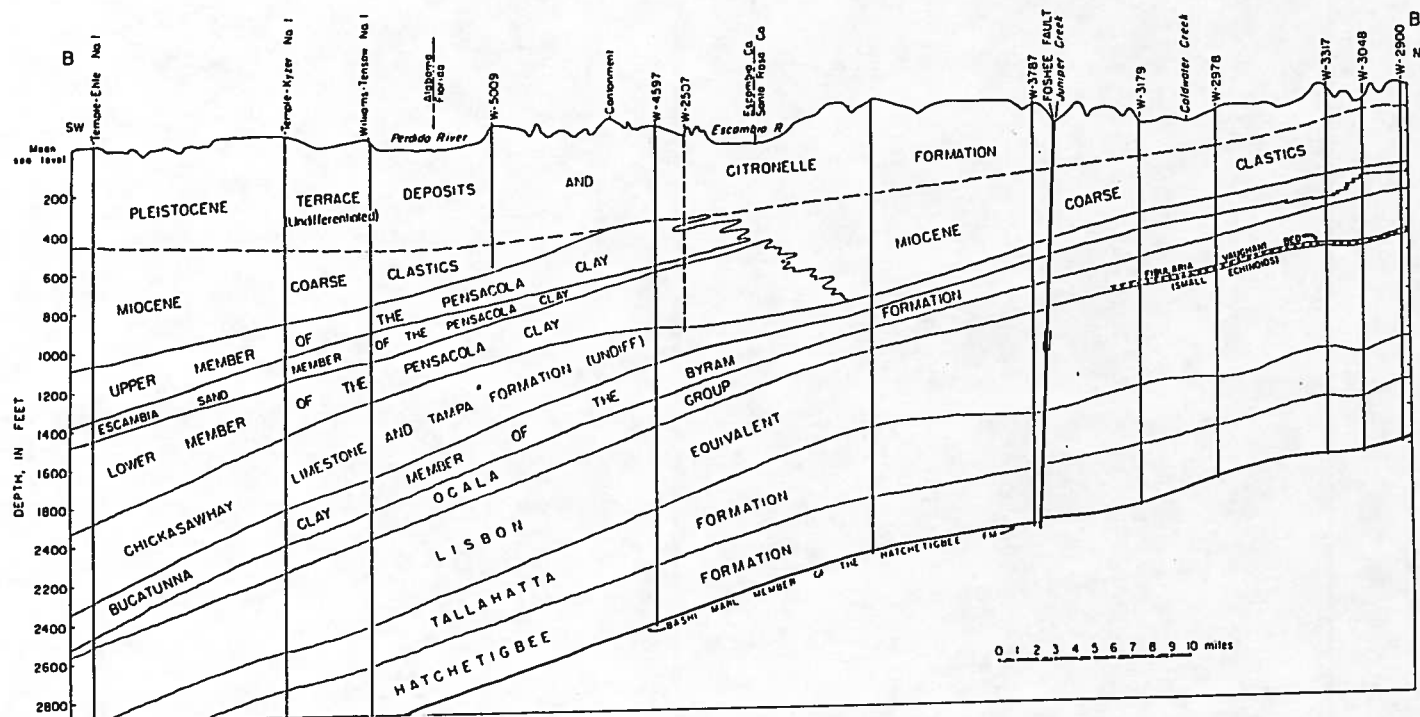
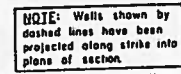


Figure 8  
NTTC Corry Station

Key: Geologic Cross Section B-B' Across Escambia & Santa Rosa Counties (Modified After Marsh, 1966). Section Parallels the Regional Dip.





Key: Geologic Section Q-Q' From Mobile Bay to the  
Choclawhatchee River (115 Miles) Showing  
Formations Along the Gulf Coast of Western  
Florida (Modified After Marsh, 1966).



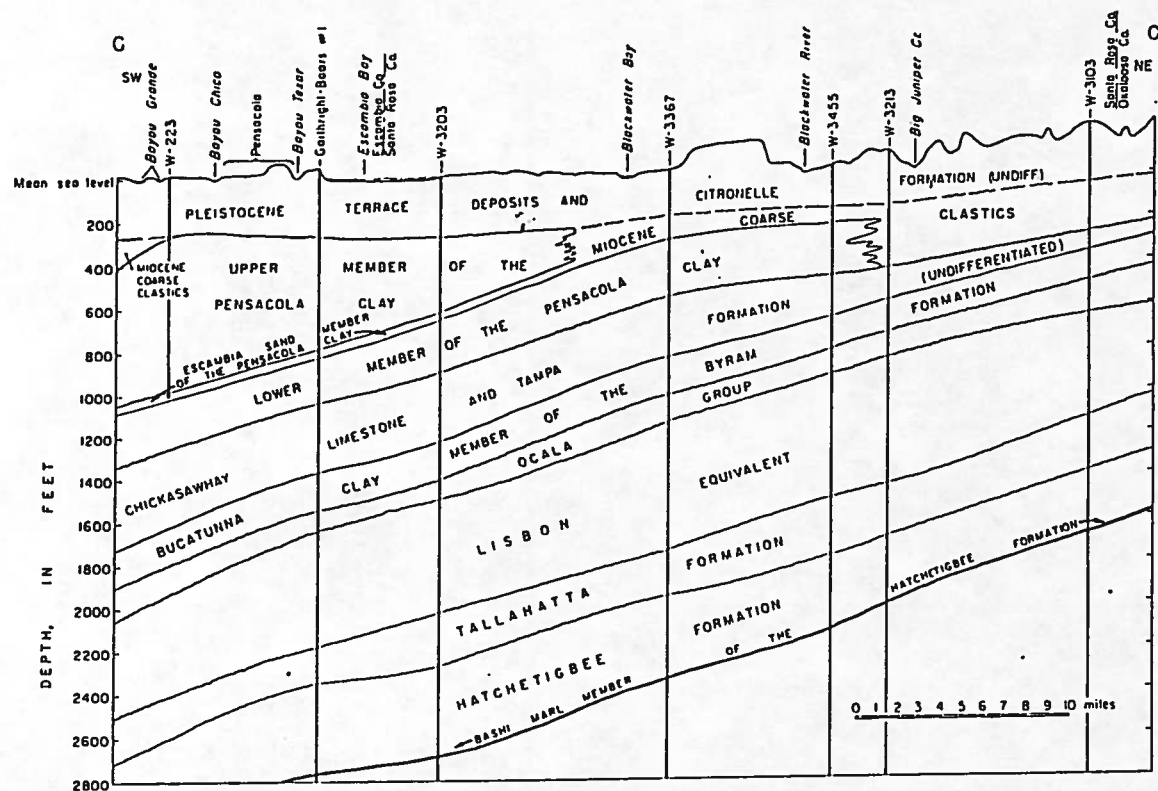


Figure 10  
NTTC Corry Station

Key: Geologic Section C-C' Across Escambia & Santa Rosa Counties (Modified After Marsh, 1966).  
Section is Parallel to Regional Dip.



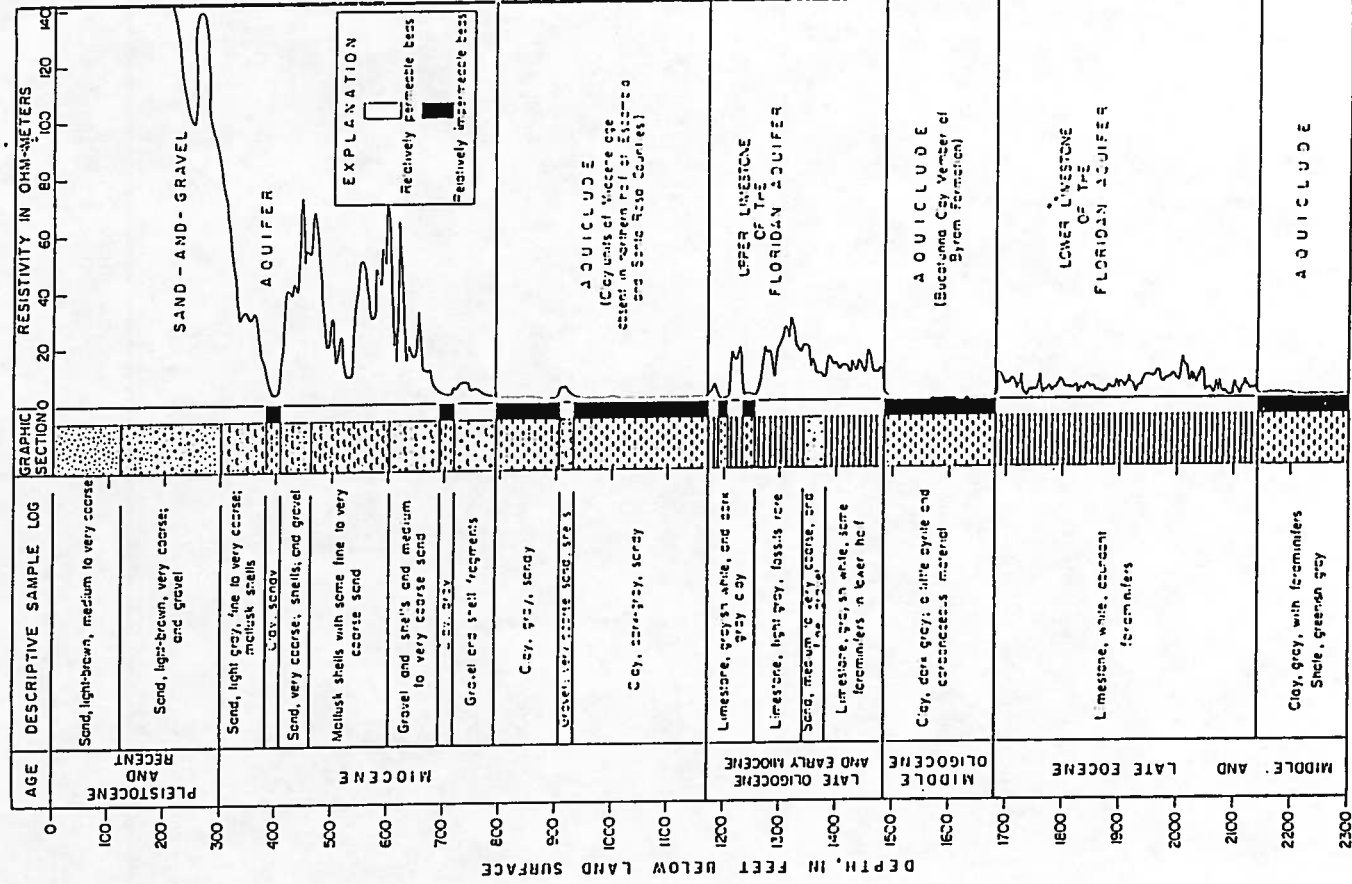


Figure 11  
NTTC Corry Station

Key: Representative Geologic  
Sequence Based on Log of  
Oil Test Well Located Near  
Pensacola (After Marsh,  
1966).



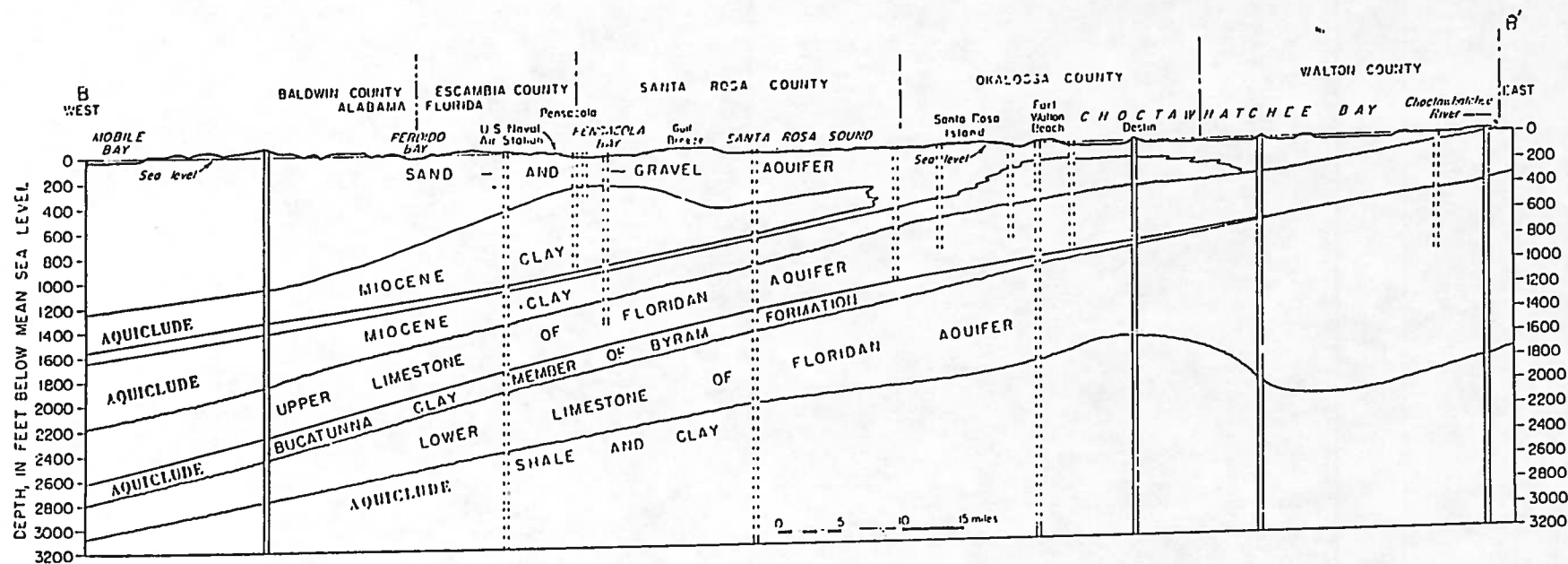


Figure 12  
NTTC Corry Station

Key: Geologic Section Across Escambia & Santa Rosa Counties Showing Aquifers & Aquicludes Along Section B-B' in Figure 8 (Modified After Musgrove ET. AL., 1965).



The gradient along the piezometric surface in the shallow beds of the Sand and Gravel Aquifer generally indicates movement of ground water toward nearby streams. The seepage of this ground water supplies more than half of the entire flow of the smaller streams in Escambia and neighboring Santa Rosa counties. Average velocity of ground water was previously computed to be approximately 100 feet per year in the Pensacola area (Musgrove et. al., 1965). The water table tends to be highest under the broad, relatively level lands that are at a higher elevation than the surrounding lands.

The artesian pressure head of water in the lower permeable beds of the Sand and Gravel Aquifer does not conform to the topography of the land as much as the water table. The artesian pressure head of water from the lower beds indicates a general movement of water to the south (Musgrove et. al., 1965). The head of water in the northern part of Escambia and Santa Rosa counties is usually more than 100 feet above sea level and at some places exceeds 150 feet. In the central part of the counties, the artesian pressure head is about 30 to 80 feet above sea level except near the large rivers. Upward leakage of ground water probably occurs which lowers the pressure head of the ground water. The artesian pressure head of water under the lands adjacent to the bays (i.e., NTTC Corry Station) is usually less than 20 feet above sea level and often less than 10 feet above sea level.

Pumping tests on nearby wells screened within the Sand and Gravel Aquifer indicate specific capacity values that range from 30 to 80 gallons per minute per foot of drawdown (Musgrove et. al.). Aquifer tests performed on wells penetrating the Sand and Gravel Aquifer owned by the City of Pensacola, the U.S. Navy (at NTTC Corry Station), and Newport Industries indicate transmissivities ranging from 58,800 to 94,000 gallons per day per foot. Jacob and Cooper (1940) calculated the "apparent coefficient of storage" to be 0.32 in the upper sands of the Pensacola area. Velocities and the coefficients of transmissivity and storage may vary considerably from place to place. Therefore, drawdowns at one place cannot be predicted on the basis of data collected elsewhere. Using an average transmissivity of 75,000 gpd/ft, a thickness of 120 feet of water-bearing material, a porosity of 0.30, and the natural hydraulic gradient, Jacob and Cooper estimated the groundwater velocity at Corry Station to be 77 feet per year (Oak Ridge National Laboratory, 1989). This value does not consider higher hydraulic gradients induced by pumping.

With few exceptions, the sum of the mineral constituents in the ground water of the Sand and Gravel Aquifer is very low, ranging from 12 to 36 ppm (Barracough and Marsh, 1962). Water in this aquifer is exceptionally soft, generally containing 4 to 30 ppm of calcium and magnesium carbonates. The fluoride content of this water is usually less than 0.2 ppm. Iron content of water from this aquifer ranges from 0.06 to 4.9 ppm, although it is generally less than 0.25 ppm.

Copious amounts of carbon dioxide render much of the water acidic. Some even contain hydrogen sulfide in solution. Carbon dioxide measurements in waters beneath NAS Pensacola have been as high as 100 mg/l (Trapp, 1972). However, elsewhere in the area, carbon dioxide concentrations are generally less than 30 mg/l. In NTTC Corry Station ground water reserves, chloride is the major anion and is generally accompanied by a predominant sodium cation (Musgrove et. al., 1965).

As of 1965, military operations used approximately 7 million gallons of ground water per day (mgd) in Escambia and Santa Rosa counties. NAS Pensacola is using 5 mgd from 9 wells (200 to 250 feet deep) at NTTC Corry Station. NAS Pensacola has 4 other wells which are on a standby basis. NTTC Corry Station supplied 1 mgd to Bronson Field, Ellyson Field, Saufley Field, and Eglin Field.

The eight production wells presently in use at NTTC Corry Station were installed in the mid-1950s and early 1960s and range in depth from 226 to 251 ft (ORNL, 1989). Design capacity of the wells is 750 gpm per well. Figure 13 displays the location of the 12 wells at NTTC Corry Station. Table 2 lists the operating capacities and screen interval for each well.

Table 2  
Operating Capacities for Production Wells  
NTTC Corry Station

Well Number	Operation Capacity (gpm)	Screen Interval Below Ground Surface
MW07	620	147 to 217
MW08	412	*
MW09	800	*
MW10	572	113 to 193
MW11	726	161 to 236
MW12	737	148 to 223
MW13	*	137 to 217
MW14	680	135 to 215
MW15	**	*

\* Not given.

\*\* Not presently on line.

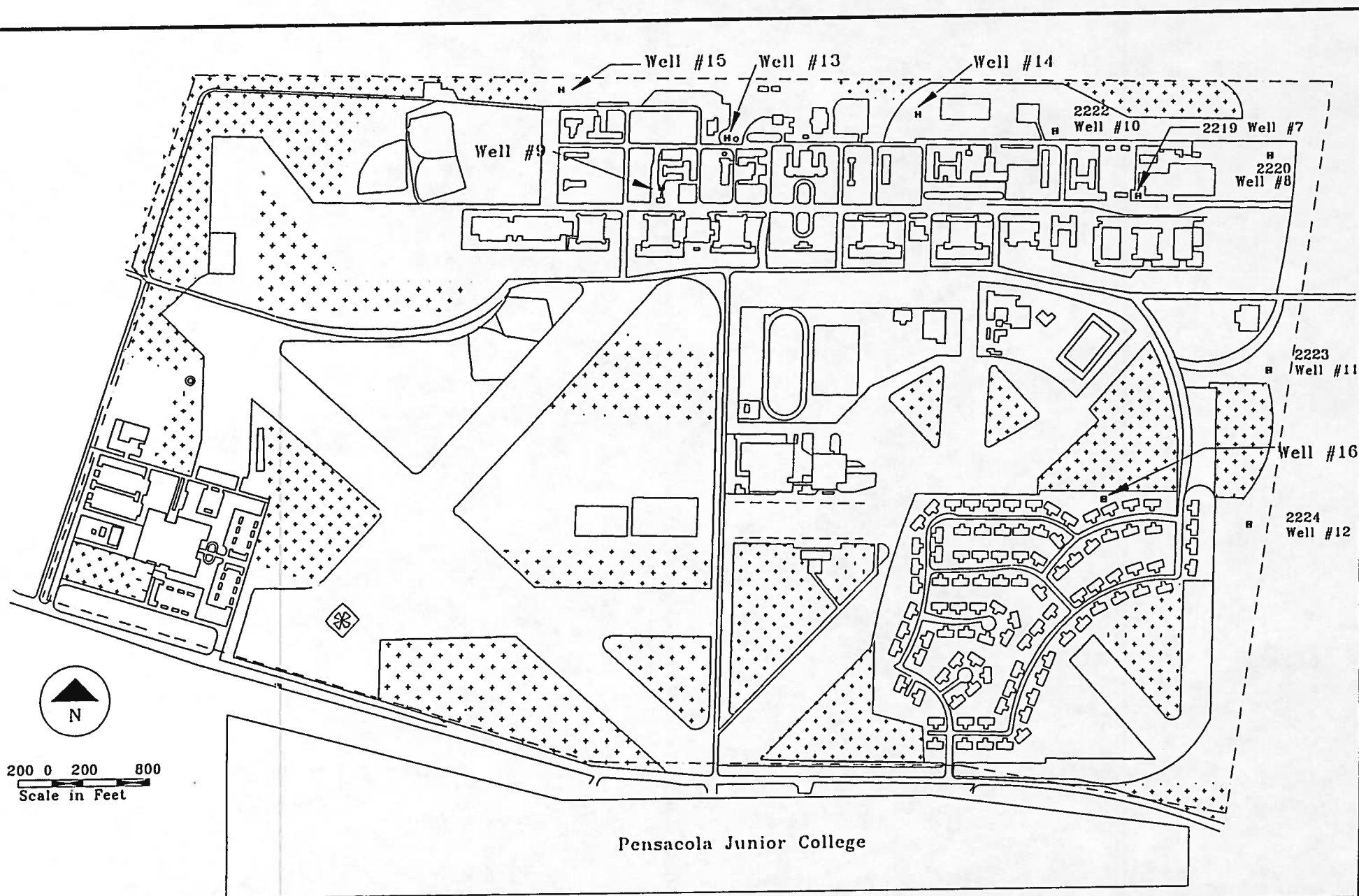


Figure 13  
NTTC Corry Station  
Well Locations

Key:  
Forest +  
Navy Boundary ---  
Fresh Water Well H



#### 4.0 FINDINGS.

4.1 General Findings. A NEESA team visited NTTC Corry Station from 9 to 19 July 1991 to collect information for the Preliminary Assessment (PA). All data presented here are current as of those dates.

There are no industrial areas or landfills on the facility. The base does use small amounts of hazardous materials for general maintenance and for the potable water treatment plant. All materials are on records maintained by the Navy Public Works Center (NPWC) NAS Pensacola. The facility at this time does not treat or dispose of hazardous waste. All hazardous material and wastes are managed through the NPWC in NAS Pensacola.

#### 4.2 Previous Hazardous Waste Generation, Storage, and Disposal.

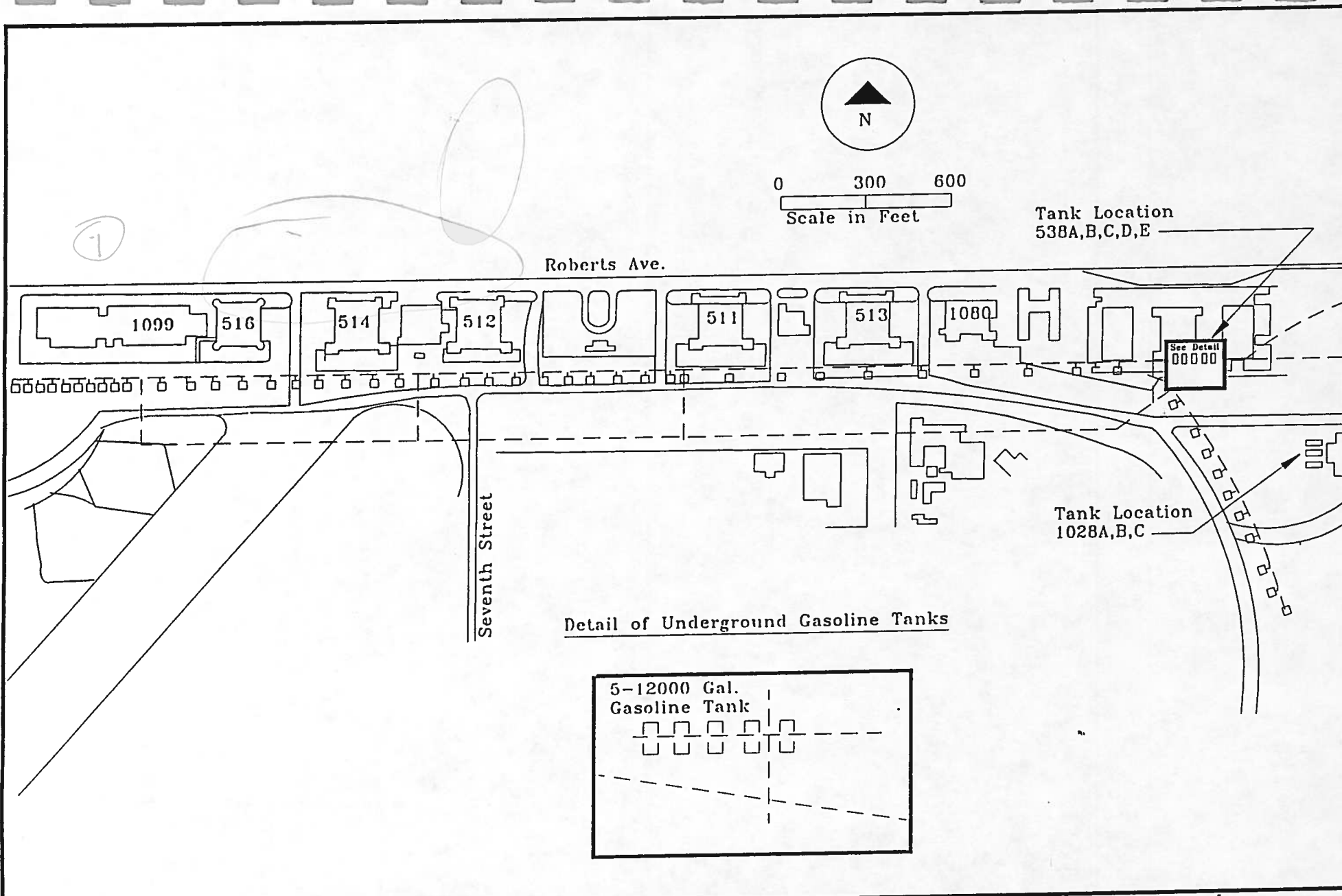
Between 1942 and 1957 numerous types of solvents, oils, and fuels were used at OLF Corry to support air operations. By volume, more high octane aviation gasoline was used at the facility than any other hazardous material. Toluene, carbon tetrachloride, and trichloroethane were also used by maintenance crews in the hangers and around the facility. The usage rate of solvents, oils and fuels is unknown. Naval training aircraft required oil changes every 40 hours of flying time. All aircraft maintenance except for major aircraft overhauls were conducted at OLF Corry. Waste oils from aircraft maintenance were put into underground waste oil tanks next to the hangars. It is likely that some waste solvents were also put in these tanks. When the waste oil tanks were full, the wastes liquids were pumped out and transported off base.

#### 4.3 Underground Storage Tanks.

4.3.1 Previous Underground Storage Tanks. NTTC Corry Station utilized a number of underground storage tanks when it was used as an outlying landing field for Pensacola. Tank numbers 538 A-E, were 12,000 gal. underground aviation fuel tanks. The tanks were used to supply fuel for a 8,000 foot gasoline fuel line. The fuel line was used to support the 56 gasoline service pits. The service pits were used to refuel various aircraft (Delaurel & Moses, 1954). Figure 14 shows the approximate location of where the system was located.

After the base was decommissioned as an outlying landing field for Pensacola, the aviation gasoline supply system was no longer required. It is unknown when or if the 8,000 ft fuel line and or the 56 service pits were removed.

Public Works at NTTC Corry Station was involved in a routine subsurface operation during the mid-1950s when they encountered a significant amount of petroleum in the soil. The fire department was



called to the scene. According to the fire department, petroleum was pumped out for three days. The exact amount and pumping rate are unknown.

It is also unknown where the source of the petroleum originated. The approximate location of where the incident occurred is shown on Figure 15.

It is suspected that the source of the product came from the gasoline service trench system. The trench was approximately 300 feet. away from the area of concern. If this was the case, then the petroleum that was encountered would have been aviation gasoline.

Tank numbers 1028-A, 1028-B, and 1028-C, respectively, were 6,000, 6,000, and 10,000 gallon, coated steel, underground tanks that contained gasoline. The associated piping is of unknown construction. The tanks were gauged twice daily and reconciled weekly. Tanks 1028-A and 1028-B were installed in 1931. Tank 1028-C was installed in 1974. The tanks were removed in June of 1988 (E.C. Jordan Co., 1989). The approximate location is shown on Figure 14. The contact number for the removal of the tanks was N62467-87M-2096.

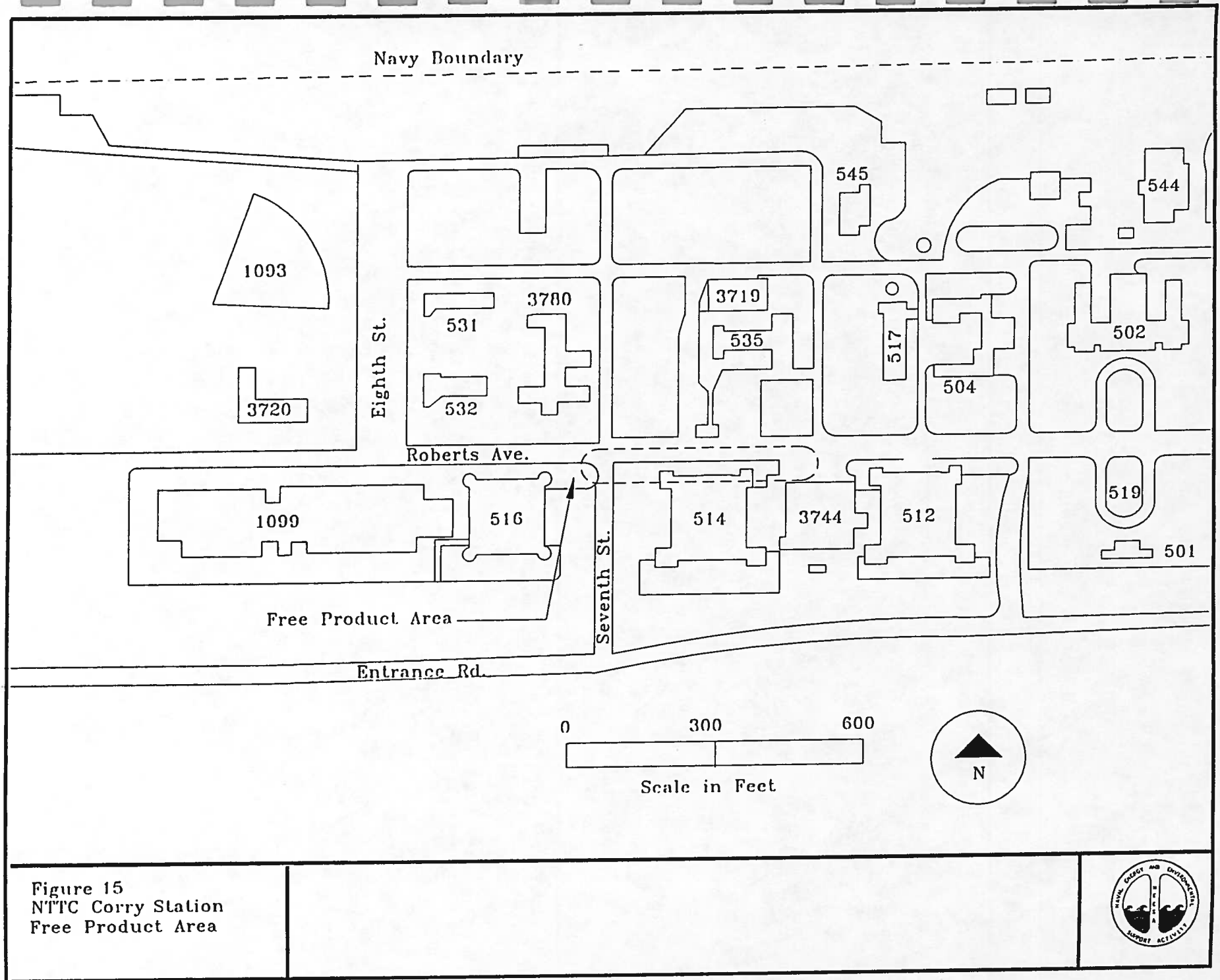
Tank numbers 504 A,B,C, and D were all 8,000 gallon, steel, underground tanks that contained motor gasoline (grade unspecified). The associated piping was composed of an unprotected steel. The tanks were installed in 1936 and removed in the late 1980s by NPWC at Pensacola(E.C. Jordan Co., 1989). The condition of the tanks and the soil after removal is unknown. It is also unknown whether there was a monitoring system associated with the tanks. Figure 16 shows the approximate location of the tanks.

Table 3 summarizes the tanks which have been removed and the approximate date of removal.

4.3.2 Current Underground Storage Tanks (USTs). Presently, NTTC Corry Station operates three USTs.

Tank number 1064 is a 3,275 gallon , coated steel, underground tank installed in 1975 that contains unleaded gasoline. The associated piping is of unknown construction. The tank is gauged daily. The tank also has cathodic protection installed(E.C. Jordan Co. 1989). The approximate location of the tank is shown on Figure 16.

Tank number 3719 is a 600 gallon, coated steel, underground tank which was installed in 1976. The tank contains diesel fuel. The associated piping is of unknown construction, but is more than likely composed of steel. The tank had cathodic protection installed (E.C. Jordan, 1989).



Navy Boundary

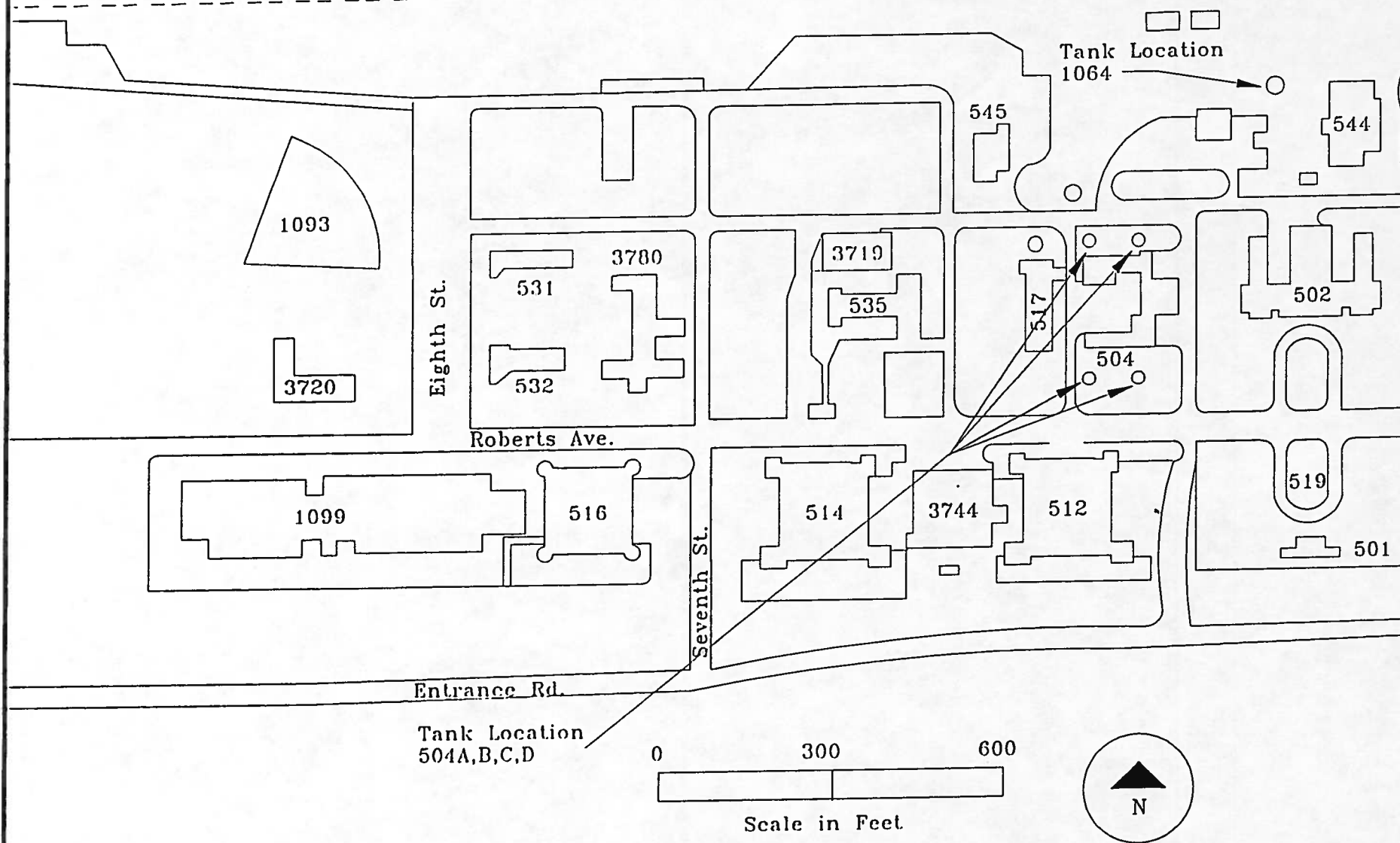


Figure 16  
NTTC Corry Station  
USTs Location



Table 3  
NTTC Corry Station Underground Storage Tanks (USTs).

Tank #	Capacity (Gallon)	Contents	Removed (Y/N), Date
504A	8,000	Motor Gasoline	Y, Late 1980s
504B	8,000	Motor Gasoline	Y, Late 1980s
504C	8,000	Motor Gasoline	Y, Late 1980s
504D	8,000	Motor Gasoline	Y, Late 1980s
538A	12,000	Aviation Fuel	Unknown
538B	12,000	Aviation Fuel	Unknown
538C	12,000	Aviation Fuel	Unknown
538D	12,000	Aviation Fuel	Unknown
538E	12,000	Aviation Fuel	Unknown
1064	3,275	Unleaded Gasoline	N
3719	600	Diesel Fuel	N

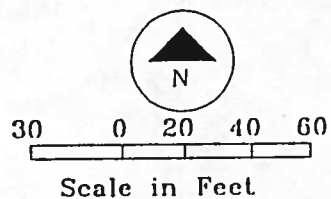
4.4 Landfills. Currently, NTTC Corry Station does not own or operate landfills on or off the base. NTTC Corry Station disposes of their wastes through the local county landfill. However, it is suspected that the base did operate at least one landfills in the past.

During the mid-1950s, station personnel knew of two areas which were used as a landfill. They were unable to specify the materials that were placed in the areas, but were able to give the approximate location of the areas. Their claim was substantiated by three soil boring reports.

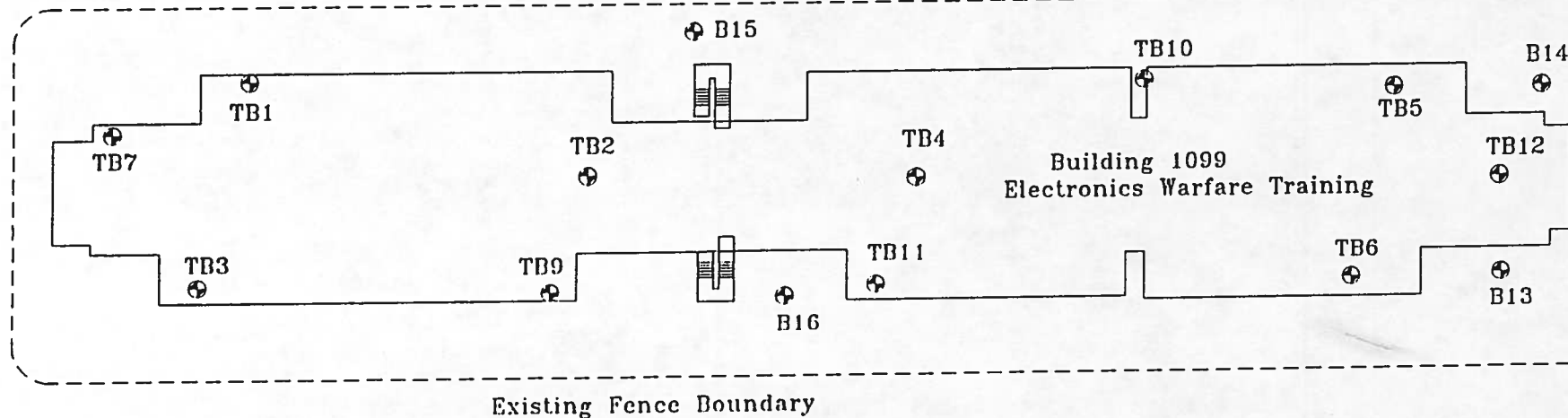
#### 4.4.1 Suspected Landfill.

NTTC Corry Station has been planning to build additions to the north, south, east, and west corners of existing Building 1099. Meister & Associates took boring samples on the proposed area. The approximate locations of the boring samples are shown in Figure 17. The results are shown in Table 4.

The report showed that the soil possessed organic staining from 0 to 16.5 feet in depth. Meister & Associates recommended that the organic stained soil be removed within the proposed construction area.



Roberts Avenue



Entrance Road

Figure 17  
NTTC Corry Station  
Building 1099  
Approximate Boring Locations


Key:  
Bore   
Existing Fence - - - -



Table 4  
NTTC Corry, Soil Conditions  
Building 1099

Depth in Feet From - To	Description of Soil (Unified Classification)
0 - 2.6	Brown/Tan Slightly Silty Fine To Medium Sand w/ Traces of Organics. Loose to Medium Dense. SW/SP
2.6 - 7.0	Brown/Black Organic Fine to Medium Sand w/ Traces of Clay and Sandy Clay. Loose to Medium Dense. SP/SM/SC. (Note: This stratum not encountered in Boring B-13)
7.0 - 16.5	Brown Organic Stained & White Fine to Medium Sand. Medium Dense to Very Dense. SP

Groundwater was encountered at an average depth of 7.6 feet below  
grade at the time of the investigation on May 2, 1991.

Source: Meister & Associates, Inc.  
May 14, 1991

Another boring report which was conducted in January 1974 also showed  
that the soil contained organic staining. The soil was stained from  
an average of 5 to 38 feet in depth(Lopatka, McQuang & Wall Corp.  
1974). The results of where the organic staining occurred in  
relationship to the boring are shown in Table 5. The approximate  
location of the borings are also shown in Figure 17.

Table 5  
NTTC Corry Station, Soil Conditions  
Building 1099

Bore (Feet)	Brown Organic Stained Sand	Black Silty Organic Sand	Black Clayey Organic Silt
TB1	14-28	None	29-44
TB2	14-23	5-8	31-44
TB3	6-29	34-38	None
TB4	12-24	6-12	29-39
TB5	None	4-10	None
TB6	7-32	4-7	32-28
TB7	3-4 & 8-29	29-34	36-43
TB8	7-23	2-6	23-29
TB9	6-27	3-6 & 27-38	None
TB10	16-27	3-8 & 27-32	None
TB11	17-29	None	19-34
TB12	None	None	None

TB1 through TB6 conducted on August 1972.

TB7 through TB12 conducted on October 1972.

All Borings made by Ardman and Associates Engineering Laboratories.

Source: Lopatka, McQuag & Well Corp.  
Architects and Engineering  
January 17, 1974

4.5 Dieldrin in Supply Wells. The Naval Facilities Engineering Command, Southern Division (SOUTHDIV), requested assistance from the Hazardous Waste Remedial Actions Program for the investigation of the potable water supply for NTTC Corry Station and the Naval Air Station (NAS) Pensacola, Florida. Previous monitoring of the groundwater supply wells indicated that the water supply contains low levels of the pesticide dieldrin (Northwest Florida Water Management District (NFWMD), 1991).

4.5.1 Well Information. Water is supplied to Corry Station and NAS Pensacola from well fields located at both sites. The only outside source of water is a city water line connected to the base hospital for emergency use. Three supply wells, located at NAS Pensacola, are used only as a reserve water source. Therefore, the majority of the water used at Corry Station and NAS Pensacola comes from the Corry Station well field (NFWMD, 1991).

Only eight of the ten wells are presently in use with plans to bring well 15 back in use in the near future. An average of 7 million gallons per day (mgd) are pumped from the Corry Station well field. Approximately 6 mgd are piped (after treatment) via a 24-in transmission main to NAS Pensacola with the remainder being used at Corry Station. An estimated 5,000 people are served by the water system at Corry Station with another 15,000 being served at NAS Pensacola. Fifty-six percent of the personnel are estimated to be full-day residents (NFWMD, 1991).

The eight production wells presently in use were installed in the mid-1950's and early 1960s and range in depth from 226 to 251 ft. Design capacity of the wells is 750 gpm per well. Actual pumping volumes are listed in Table 7 (NFWMD, 1991).

Water treatment methods include chlorination, corrosion control, fluoridation, and pH adjustment (NFWMD, 1991).

**4.5.2 Dieldrin Characteristics.** Dieldrin is a cyclodiene insecticide and is also commonly found as a degradation product of another pesticide, aldrin. Prior to the mid 1970s, aldrin and dieldrin were approved for use on 46 agricultural crops for treatment of soil around fruits, grains, nuts, and vegetables. They were also used as wood treatment products for railroad ties and telephone poles. In 1975, all uses of aldrin and dieldrin were suspended except their direct injection into the soil as termiticides. This suspension was based on the documentation of adverse health affects in rodents. All uses of the pesticides were banned in 1987. This final ban is partially a result of the persistence of dieldrin in the environment (NFWMD, 1991).

It is likely that most aldrin would have degraded to dieldrin within a relatively short time. One study reports that conversion of aldrin to dieldrin was 80% complete after 8 weeks in river water. The same study revealed that dieldrin is a much more persistent compound, with 100% of the original compound detected after the 8 week period. The half-life of dieldrin is approximately 1000 days. Dieldrin has a water solubility of 0.015 ppm and an organic partition coefficient of 1.2 (NFWMD, 1991).

**4.5.3 Regulatory Considerations.** Dieldrin is suspected of being a human carcinogen; therefore, the recommended concentration in drinking water for maximum protection of human health is zero. Because zero attainment is not feasible in most cases, the U.S. Environmental Protection Agency (EPA) has estimated water quality criteria based on incremental lifetime cancer risks. A risk of 10E-6 indicates the probability of one additional case of cancer for every 1 million people exposed. The 10E-6 risk for dieldrin, adjusted for drinking water, is 1.1 10E-9 g/L (NFWMD, 1991).

Table 6  
Operating Capacities for Production Wells  
NTTC Corry Station

Well Number	Operation Capacity (gpm)
MW07	620
MW08	412
MW09	800
MW10	572
MW11	726
MW12	737
MW13	*
MW14	680
MW15	**

\* Not given.

\*\* Not presently on line.

4.5.4 Sampling Results. Previous monitoring of the supply well at NTTC Corry Station and NAS Pensacola was conducted in 1984 by Geraghty and Miller Inc., and in 1987 by the Navy Public Works Center (NPWC). Both rounds of sampling indicated 0.01 to 1.3 10E-6 g/L of dieldrin in several Corry Station supply wells (NFWMD, 1991).

Because of quality assurance concerns, Oak Ridge National Laboratory's Chemical Assessments Team, located in Grand Junction, Colorado, was requested to resample the wells and the pretreatment holding facility (designated as the "clear well") and send split samples to International Technology, and Analytical Chemistry Department. On-line wells were sampled using the dedicated pumps and plumbing of the existing system. Wells not yet on-line (No. 15 ) were purged of approximately five case volumes of water and then sampled at both the influent and output sides using the existing plumbing. Results of those analyses are summarized in Table 8. Detectable levels of dieldrin ranging from the detection limit of 0.01 10E-6 g/L to 0.59 10E-6 g/L were found. There is excellent agreement between the International Technology (IT) Corporation analyses and those from the Oak Ridge Gaseous Diffusion Plant (ORGDP) Analytical Chemistry Department (ACD) (NFWMD, 1991).

Table 7  
Dieldrin Concentrations in Supply Wells  
NTTC Corry Station

Well Number	<u>Dieldrin concentration ( g/L)</u>	
	IT Corporation	ACD at ORGDP
NAS-01	<0.01	<0.01
NAS-02	<0.01	<0.01
MW-07	0.23	0.07
MW-08	0.59	0.50
MW-09	<0.01	NA
MW-10	0.04	0.04
MW-11	0.05	0.04
MW-12	<0.01	NA
MW-13	<0.01	NA
MW-14	0.01	0.03
MW-15	<0.01	<0.01
NAS-1802	<0.01	NA
MW-CW	0.09	0.08
MW-CW	0.11	0.11

CW= Clear Well

MW= NTTC Corry Station production well

NA=Not analyzed

NAS= Naval Air Station Pensacola

Oak Ridge National Laboratory  
Grand Junction Office  
May 1989

4.5.5 Conclusions. Results of the hydrogeologic investigation have shown that the sand-and-gravel aquifer is highly susceptible to groundwater contamination. Field reconnaissance and site visits with state environmental personnel indicate that dieldrin observed in the Corry Station wells is not from a specific point source but probably due to widespread use of the pesticide in nearby urban and residential areas. The concentrations of dieldrin are within acceptable limits, however, dieldrin in the Corry Station supply wells are above the Florida Department of Environmental Regulations (FDER) guidance concentration (NFWMD, 1991).

## 5.0 AREA SPECIFIC INFORMATION.

5.1 Area 1, Suspected Landfill. It is suspected that a landfill was owned and operated by NTTC Corry Station during the mid 1950s. The station personnel of that time period were able to give the approximate location of the area, but were unable to specify the materials which were disposed. It is suspected that solid and hazardous wastes were both deposited in the area. The claim was substantiated by two boring reports. Figure 17 shows the approximate location of the area.

A boring report was conducted on January 1974 by Ardman and Associates Engineering Laboratories. The borings showed that the soil contained organic staining which averaged 5 to 44 feet in depth. The results of where the organic staining occurred in relationship to the boring are shown on Table 5. The approximate location of the borings are shown on Figure 17.

A second boring report was conducted in May 1991 for the purpose of building additions to the north, south, east, and west corners of Building 1099. Meister & Associates took boring samples on the proposed area. The report showed that the soil had been stained by organics ranging from 0 to 16.5 feet in depth. The approximate locations of the boring samples are shown in Figure 17. The results of the report are shown in Table 4.

### 5.1.1 Potential Contamination Exposure Routes.

Surface Water Receptors. Pensacola Bay is the closest body of water from Area 1. It is approximately two miles from the area. Suspected hazardous wastes are buried below the surface, thus contamination of surface run-off would be unlikely.

Air Receptors. Suspected hazardous wastes are below the surface. Due to the breakdown of suspected organic elements, the accumulation of methane gas is possible.

Ground Water Receptors. Landfill A is located in an area where the ground water is approximately ten feet below the surface. Top soil in the area is composed mainly of sand. Due to the porosity of the soil adjacent to the landfill, any leachate from the suspected hazardous wastes would likely reach ground water.

The landfill has the potential to threaten the potable water wells located on the base.

5.1.2 Area 1, Recommendations. A soil gas survey should be conducted in the area to determine if there is a potential for organic vapors to accumulate under Building 1099.

5.2 Area 2, Aircraft Refueling System. NTTC Corry Station utilized a number of underground storage tanks when it was used as an outlying landing field for Pensacola. Tank numbers 538 A-E were 12,000 gallon underground gasoline tanks which were used in conjunction with 8,000 feet of gasoline lines. The gasoline lines were connected to 56 gasoline service pits which were used to refuel aircraft (Delaureal & Moses, 1954). Figure 14 shows the approximate location of where the system was located.

After Corry Station was decommissioned as an OLF, the refueling system was no longer required. It is unknown when or if the 8,000 feet of fuel lines and/or the 56 service pits have been removed.

5.2.1 Potential Contamination Exposure Routes.

Surface Water Receptors. Pensacola Bay is the closest body of water from the refueling system. It is approximately two miles from the area. Suspected hazardous wastes are buried below the surface, thus contamination of surface run-off would be unlikely.

Air Receptors. Suspected hazardous wastes are below the surface. Due to the volatility of aviation gasoline, at this date it is unlikely that it poses a threat to the surrounding air.

Ground Water Receptors. The fuel system was located in an area where the ground water is approximately ten feet below the surface. Top soil in the area is composed mainly of sand. Due to the porosity of the soil adjacent to the fuel system, any residual aviation gasoline would likely reach ground water.

If the fuel system has any residual aviation gasoline then it has the potential to threaten the potable water wells located on the base.

5.2.2 Area 2 Recommendations. Information should be obtained on the closure plan of the old fueling system, in order to recommend appropriate action.

5.3 Area 3, Free Product Area. Public Works personnel were involved in a routine subsurface operation during the mid 1950s when they encountered a significant amount of petroleum in the soil. The fire department was called to the scene. According to the fire chief, the fire department pumped out a petroleum product for three days. The exact amount and pumping rate are unknown. The source of where the petroleum originated is unknown. The approximate location of where the incident occurred is shown in Figure 15.

It is suspected that the source of the product was the aircraft refueling system. The system was approximately 300 feet away from the area of concern. If this was the case, then the petroleum that was encountered would have been aviation gasoline.

#### 5.3.1 Potential Contamination Exposure Routes.

Surface Water Receptors. Pensacola Bay is the closest body of water from the free product area. It is approximately two miles from the area. Suspected hazardous wastes are located below the surface, thus contamination of surface run-off would be unlikely.

Air Receptors. Suspected hazardous wastes are below the surface. The area does not appear to pose a threat to the surrounding air.

Ground Water Receptors. The free product area was located in an area where the ground water is approximately ten feet below the surface. Top soil in the area is composed mainly of sand. Due to the porosity of the soil adjacent to the free product area, any residual petroleum product would likely reach the ground water.

Despite recovery actions it is unlikely that all of the free product was recovered. Any residual material left could potentially contaminate the ground water in the area.

5.3.2 Area 3 Recommendations. Soil samples should be gathered at the area where the fuel was recovered. Soil should be sampled for lead and semi-volatiles.

## REFERENCES

- Barracclough, J.T., and Marsh, O.T., 1962. Aquifers and quality of ground water along the Gulf Coast of western Florida: Florida Geol. Survey Rept. Inv. 29, 28 p.
- Delaureal and Moses Consulting Engineers., Master Shore Station Development Plan, Part IV Section 6, Utilities Development Plan Steam and Gasoline Distribution Systems., NAVFAC Drawing No. 601451., March 9, 1954.
- Jacob, C.E., and Cooper, H.H., Jr., 1940. Report on the ground water resources of the Pensacola area, in Escambia County, Florida, with a section on the geology by Sidney A. Stubbs: U. S. Geol. Survey open-file report, 85 p.
- Lopatka, McQuang, and Wall Corp. Architects., Electronics Warfare Training Building (2nd Increment) Site Plan and List of Abbreviations., NAVFAC Drawing No. 5027750., June 20, 1977.
- Marsh, O.T., 1966. Geology of Escambia and Santa Rosa counties, western Florida Panhandle: Florida Geol. Survey, Bull. 46, 140 p.
- Meister and Associates, Inc. Consulting Engineers, 1991. Soils/Foundation Study Report for Mechanical Room Additions Building 1099 NTTC Corry Station Pensacola, Florida. 1,3,5,8 p.
- Musgrove, R.H., Barracclough, J.T., and Grantham, R.G., 1965. Water resources of Escambia and Santa Rosa counties, Florida: Florida Geol. Survey, Rept. Inv. 40, 102 p.
- Northwest Florida Water Management District, 1991. Assessment of Dieldrin Contamination at Corry Field, Pensacola Florida, Prepared for: Naval Facilities Engineering Command, Southern Division.
- Trapp, Henry Jr., 1972. Availability of Ground water for public water supply in the Pensacola area, Florida: U.S. Geol. Survey open-file report 72029, 40 p.
- Trapp, Henry Jr., 1973. Hydrology of the Sand-and-Gravel aquifer in central and southern Escambia County, Florida: U.S. Geol. Survey open-file report FL-74027, 35 p.
- U.S.D.A. 1960. Soil survey of Escambia County, Florida: series 1955, No. 8, 87 p.
- U.S. Navy 1989. Naval Technical Training Center, Corry Station Master Plan, Naval Complex, Pensacola, Florida.

## Appendix

### Population Densities for NTTC Corry

Track	Population	Area(sq mile)	Density
3	3768	3	1256
4	3626	1.5	2417
14.02	6261	5	1252
16	2541	1	2541
17	4088	3	1363
18	3627	2	1814
19	2813	1	2813
20	2941	3	980
21	6252	4	1563
22	5144	2	2572
23	6099	12	508
24	3658	15	244
26.01	4532	30	151
27	6333	12	528
28	11806	7	1687
29	4722	1.5	3148
30	6849	5	1370
31	5497	6	916
32.01	4751	9	528
32.02	4652	8.5	547
33.01	1883	4	471
33.03	9657	10	966
36.03	8198	20	410

TOTAL: 107032 people in a five mile radius of NTTC Corry.

#### CALCULATIONS FOR THE POPULATION DENSITIES:

Area=( $\pi$ )R<sup>2</sup> where, R= 5 miles

Area=(5 mile)<sup>2</sup> ( $\pi$ )

Area=78.54 miles

Therefore, the population density for NTTC Corry is:

Density= Population/Area.

Density= 107032 people/78.54 miles

Density= 1363.

# PA-Score

## PA SCORESHEETS

Site Name: Suspected Landfill  
CERCLIS ID No.: 170024408  
Street Address: Code 1040  
City/State/Zip: PENSACOLA, FL 32511

Investigator: SCOTT HORWITZ  
Agency/Organization: NEESA/NAVY  
Street Address: CODE 112E3  
City/State: PORT HUENEME, CA

Date: 12/91

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 Suspected Landfill	Landfill	Ref: 3,4	WQ value	maximum
Volume	1.00E+03 cu ft		1.48E-02	1.48E-02
The exact volume of the landfill is unknown. One thousand cubic yards is an approximation.				
Ref: Base Personnel.				

Waste Characteristics Score: WC = 18

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 2

Ground Water Pathway Criteria List  
Suspected Release

Are sources poorly contained? (y/n/u)	Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is precipitation heavy? (y/n/u)	Y
Is the infiltration rate high? (y/n/u)	Y
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	Y
Is drinking water drawn from a shallow aquifer? (y/n/u)	Y
Are suspected contaminants highly mobile in ground water? (y/n/u)	N
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	Y

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

Ground water in the area is very shallow (3 feet). Thus, if contamination is present, then the area has the potential to threaten the local ground water and/or potable water wells located on the base.

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 3

Ground Water Pathway Criteria List  
Primary Targets

Is any drinking water well nearby? (y/n/u)	Y
Has any nearby drinking water well been closed? (y/n/u)	U
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	Y
Does any nearby well have a large drawdown/high production rate? (y/n/u)	Y
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	Y
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	Y
Does any drinking water well warrant sampling? (y/n/u)	Y

Other criteria? (y/n)      Y      Dieldrin has been found in wells

PRIMARY TARGET(S) IDENTIFIED? (y/n)      Y

Summarize the rationale for Primary Targets:

Potable water wells have been analyzed for the presence of Dieldrin contamination. Extensive studies will be conducted to determine the origin of the chemical.

Futhermore, the area of concern is located below the surface. If contamination is present, then local ground water and the base's potable water wells are in danger.

Ref: Northwest Florida Water Management Division.

**PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92**

**Page: 4**

**GROUND WATER PATHWAY SCORESHEETS**

**Pathway Characteristics**

Do you suspect a release? (y/n)			Yes	Ref.
Is the site located in karst terrain? (y/n)			No	
Depth to aquifer (feet):			3	7
Distance to the nearest drinking water well (feet):			500	1
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	550			
2. NO SUSPECTED RELEASE		0		
LR =		550 0		

**Targets**

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 18140 person(s)	181400		
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	0	0	
5. NEAREST WELL	50	0	
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0	
7. RESOURCES	5	0	
T =	181455	0	

**WASTE CHARACTERISTICS**

WC = 

32	0
----	---

**GROUND WATER PATHWAY SCORE:**

100
-----

**PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92**

**Page: 5**

**Ground Water Target Populations**

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
1 Well #1 - Well #9	0.10	18140	8	181400
None				
<b>Total</b>				<b>181400</b>

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
<b>Total</b>			<b>0</b>

**PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92**

**Page: 6**

**Apportionment Documentation for a Blended System**

--

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 7

Surface Water Pathway Criteria List  
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is the drainage area large? (y/n/u)	Y
Is rainfall heavy? (y/n/u)	Y
Is the infiltration rate low? (y/n/u)	Y
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	U
Are sediments or water unnaturally discolored? (y/n/u)	N
Is wildlife unnaturally absent? (y/n/u)	N
Has deposition of waste into surface water been observed? (y/n/u)	N
Is ground water discharge to surface water likely? (y/n/u)	U
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	U

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 8

Surface Water Pathway Criteria List  
Primary Targets

Is any target nearby? (y/n/u)      If yes:      N  
    N Drinking water intake  
    N Fishery  
    Sensitive environment

Has any intake, fishery, or recreational area been closed? (y/n/u)      N

Does analytical or circumstantial evidence suggest surface water  
contamination at or downstream of a target? (y/n/u)      N

Does any target warrant sampling? (y/n/u)      If yes:      N  
    U Drinking water intake  
    N Fishery  
    Sensitive environment

Other criteria? (y/n)      N

PRIMARY INTAKE(S) IDENTIFIED? (y/n)      N

Summarize the rationale for Primary Intakes:

continued -----

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 9

continued -----

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Fisheries:

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n)


Summarize the rationale for Primary Sensitive Environments:


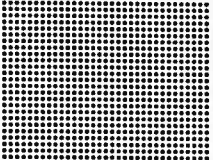

**PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92**

**Page: 10**

**SURFACE WATER PATHWAY SCORESHEETS**

**Pathway Characteristics**

		Ref.
Do you suspect a release? (y/n)	No	
Distance to surface water (feet):	10560	1
Flood frequency (years):	100	2
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	0.0	
b. the nearest fishery?	0.0	
c. the nearest sensitive environment?	0.0	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		400	
LR =	0	400	

**PA-Score 1.0 Scoresheets**  
**Suspected Landfill - 01/30/92**

**Page: 11**

**Drinking Water Threat Targets**

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

**Drinking Water Threat Target Populations**

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
None					
Total Primary Target Population Value					0
Total Secondary Target Population Value					0

**PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92**

**Page: 12**

**Apportionment Documentation for a Blended System**

--

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 13

Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	0		
10. SECONDARY FISHERIES	0	0	
T =	0	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				
Total Primary Fisheries Value				0
Total Secondary Fisheries Value				0

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 14

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	0		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	0	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				
Total Primary Sensitive Environments Value				0
Total Secondary Sensitive Environments Value				0

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 15

Surface Water Pathway Threat Scores

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	400	5	18	0
Human Food Chain	400	0	18	0
Environmental	400	0	18	0

SURFACE WATER PATHWAY SCORE:

0

Soil Exposure Pathway Criteria List  
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u)	N
Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u)	Y
Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u)	U
Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u)	N
Does any neighboring property warrant sampling? (y/n/u)	N

Other criteria? (y/n)                      N

RESIDENT POPULATION IDENTIFIED? (y/n)                      N

Summarize the rationale for Resident Population:

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 17

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No	0
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No	
Is the facility active? (y/n):	Yes	2

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	
3. RESIDENT INDIVIDUAL	0	
4. WORKERS None	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	5	
T =	5	

WASTE CHARACTERISTICS

WC = 18

RESIDENT POPULATION THREAT SCORE:

1

NEARBY POPULATION THREAT SCORE:

2

Population Within 1 Mile: 10,001 - 50,000

SOIL EXPOSURE PATHWAY SCORE:

3

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 18

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 19

Air Pathway Criteria List  
Suspected Release

Are odors currently reported? (y/n/u) N

Has release of a hazardous substance to the air  
been directly observed? (y/n/u) N

Are there reports of adverse health effects (e.g., headaches,  
nausea, dizziness) potentially resulting from migration  
of hazardous substances through the air? (y/n/u) N

Does analytical/circumstantial evidence suggest release to air? (y/n/u) N

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

**PA-Score 1.0 Scoresheets**  
**Suspected Landfill - 01/30/92**

**Page: 20**

**AIR PATHWAY SCORESHEETS**

**Pathway Characteristics**

Do you suspect a release? (y/n)			No	Ref.
Distance to the nearest individual (feet):			0	
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	0			
2. NO SUSPECTED RELEASE		500		
LR =		0		

**Targets**

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	0	
5. NEAREST INDIVIDUAL	0	0	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	0	
8. RESOURCES	0	5	
T =		0	5

**WASTE CHARACTERISTICS**

WC =

0	18
---	----

**AIR PATHWAY SCORE:**

1
---

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 21

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0		0
Greater than 0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
Total Secondary Population Value			0

PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92

Page: 22

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
None			
Total Secondary Sensitive Environments Value			

**PA-Score 1.0 Scoresheets  
Suspected Landfill - 01/30/92**

**Page: 23**

**SITE SCORE CALCULATION**

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	100
SURFACE WATER PATHWAY SCORE:	0
SOIL EXPOSURE PATHWAY SCORE:	3
AIR PATHWAY SCORE:	1
SITE SCORE:	50

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? Yes

If yes, identify the well(s).  
Well #15, Well #13, Well #14, Well #9

If yes, how many people are served by the threatened well(s)? 18139

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?

A. Drinking water intake

B. Fishery

C. Sensitive environment (wetland, critical habitat, others)

No

No

No

If yes, identity the target(s).

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations?

No

If yes, explain:

REFERENCE LIST

1. United States Geological Survey  
West Pensacola, FLA.-ALA.  
30087-D3-TF-024
2. United States Navy 1989. Naval Technical Training Center, Corry  
Station Master Plan, Naval Complex Pensacola, Florida.
3. Meister & Associates, Inc. Consulting Engineers. Soils/Foundation  
Study Report for Mechanical Room Additions Building 1099 NTTC Corry  
Station Pensacola, Florida. May 14, 1991.
4. Lopatka, McQuang & Wall Corp. Architects and Engineers Winter Park  
Florida. Electronics Warfare Training Building (2nd Increment), Soil  
Logs & Site Details. NAVFAC Drawing No. 5027755. 1/17/74.
5. Interview with Station Personnel.
6. Delaureal & Moses Consulting Engineers, Utilites Development Plan  
Steam and Gasoline Distribution System. NAVFAC Drawing No. 601451,  
March 9, 1954.
7. Assesment of Dieldrin Contamination at Corry Field, Pensacola, Florida  
Northwest Florida Water Management District,. 1989.
8. Marsh, O.T. 1966. Geology of Escambia and Santa Rosa Counties,  
Western Florida Panhandle: Florida Geol. Survey, Bull. 46,140 p.
9. Pensacola SMSA Census Tracts Regional Council, 1980.

# PA-Score

## PA SCORESHEETS

Site Name: Refueling System  
CERCLIS ID No.: 170024408  
Street Address: Code 1040  
City/State/Zip: PENSACOLA, FL 32511

Investigator: SCOTT HORWITZ  
Agency/Organization: NEESA/NAVY  
Street Address: CODE 112E3  
City/State: PORT HUENEME, CA

Date: 12/91

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 Refueling System	Non-drum containers	Ref: 6	WQ value	maximum
Volume	5.00E+04 gals		1.00E+02	1.00E+02

It is suspected that an 8000 foot, 10 inch diameter fuel line, is located under the base. The approximate volume is:

Volume=(8000 feet of fuel lines)\*(10 inch diameter pipe)\*  
(1 foot/12 inches)  
Volume=6667 cubic feet of waste.

Volume=(6667 cft)\*(7.48 gal/cft)  
Volume=50,000 gal.  
Ref: NAVFAC Drawing NO. 601451

Waste Characteristics Score: WC = 18

Ground Water Pathway Criteria List  
Suspected Release

Are sources poorly contained? (y/n/u)	Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is precipitation heavy? (y/n/u)	Y
Is the infiltration rate high? (y/n/u)	Y
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	Y
Is drinking water drawn from a shallow aquifer? (y/n/u)	Y
Are suspected contaminants highly mobile in ground water? (y/n/u)	U
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	Y

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

Thus, if contamination is present, then the areas have the potential to threaten the local ground water and/or potable water wells located on the base.

Ground Water Pathway Criteria List  
Primary Targets

Is any drinking water well nearby? (y/n/u)	Y
Has any nearby drinking water well been closed? (y/n/u)	U
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	Y
Does any nearby well have a large drawdown/high production rate? (y/n/u)	Y
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	Y
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	Y
Does any drinking water well warrant sampling? (y/n/u)	Y

Other criteria? (y/n)      Y      Dieldrin has been found in wells

PRIMARY TARGET(S) IDENTIFIED? (y/n)      Y

Summarize the rationale for Primary Targets:

Potable water wells have been analyzed for the presence of Dieldrin contamination. Extensive studies will be conducted to determine the origin of the chemical.

Futhermore, the area of concern is located below the surface. If contamination is present, then local ground water is in danger as are the local potable water wells.

Ref: Northwest Florida Water Management Division.

PA-Score 1.0 Scoresheets  
Refueling System - 01/30/92

Page: 4

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

Pathway Characteristics			Ref.
Do you suspect a release? (y/n)	Yes	<input type="checkbox"/>	
Is the site located in karst terrain? (y/n)	No	<input type="checkbox"/>	
Depth to aquifer (feet):	3	7	
Distance to the nearest drinking water well (feet):	500	1	
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550	<input type="checkbox"/>	<input type="checkbox"/>
2. NO SUSPECTED RELEASE	<input type="checkbox"/>	0	
LR =	550	0	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 18140 person(s)	181400	<input type="checkbox"/>	<input type="checkbox"/>
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	0	0	
5. NEAREST WELL	50	0	
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0	
7. RESOURCES	5	0	
T =	181455	0	<input type="checkbox"/>

WASTE CHARACTERISTICS

WC = 

32	0
----	---

GROUND WATER PATHWAY SCORE:

100
-----

**PA-Score 1.0 Scoresheets**  
**Refueling System - 01/30/92**

**Page: 5**

**Ground Water Target Populations**

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
1 Well #1 - Well #9	0.10	18140	8	181400
None				
<b>Total</b>				<b>181400</b>

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
<b>Total</b>			<b>0</b>

**PA-Score 1.0 Scoresheets**  
**Refueling System - 01/30/92**

**Page: 6**

**Apportionment Documentation for a Blended System**

--

Surface Water Pathway Criteria List  
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is the drainage area large? (y/n/u)	Y
Is rainfall heavy? (y/n/u)	Y
Is the infiltration rate low? (y/n/u)	Y
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	N
Are sediments or water unnaturally discolored? (y/n/u)	U
Is wildlife unnaturally absent? (y/n/u)	U
Has deposition of waste into surface water been observed? (y/n/u)	N
Is ground water discharge to surface water likely? (y/n/u)	Y
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	U

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

Surface Water Pathway Criteria List  
Primary Targets

Is any target nearby? (y/n/u)	If yes:	N
N Drinking water intake		
N Fishery		
Sensitive environment		
Has any intake, fishery, or recreational area been closed? (y/n/u)		N
Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u)		N
Does any target warrant sampling? (y/n/u)	If yes:	N
U Drinking water intake		
N Fishery		
Sensitive environment		

Other criteria? (y/n)      N

PRIMARY INTAKE(S) IDENTIFIED? (y/n)      N

Summarize the rationale for Primary Intakes:

continued -----

continued -----

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Fisheries:



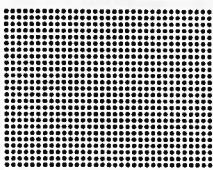

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n)

Summarize the rationale for Primary Sensitive Environments:

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			No	
Distance to surface water (feet):			10560	1
Flood frequency (years):			100	2
What is the downstream distance (miles) to:				
a. the nearest drinking water intake?			0.0	
b. the nearest fishery?			0.0	
c. the nearest sensitive environment?			0.0	
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	0			
2. NO SUSPECTED RELEASE		400		
LR =	0	400		

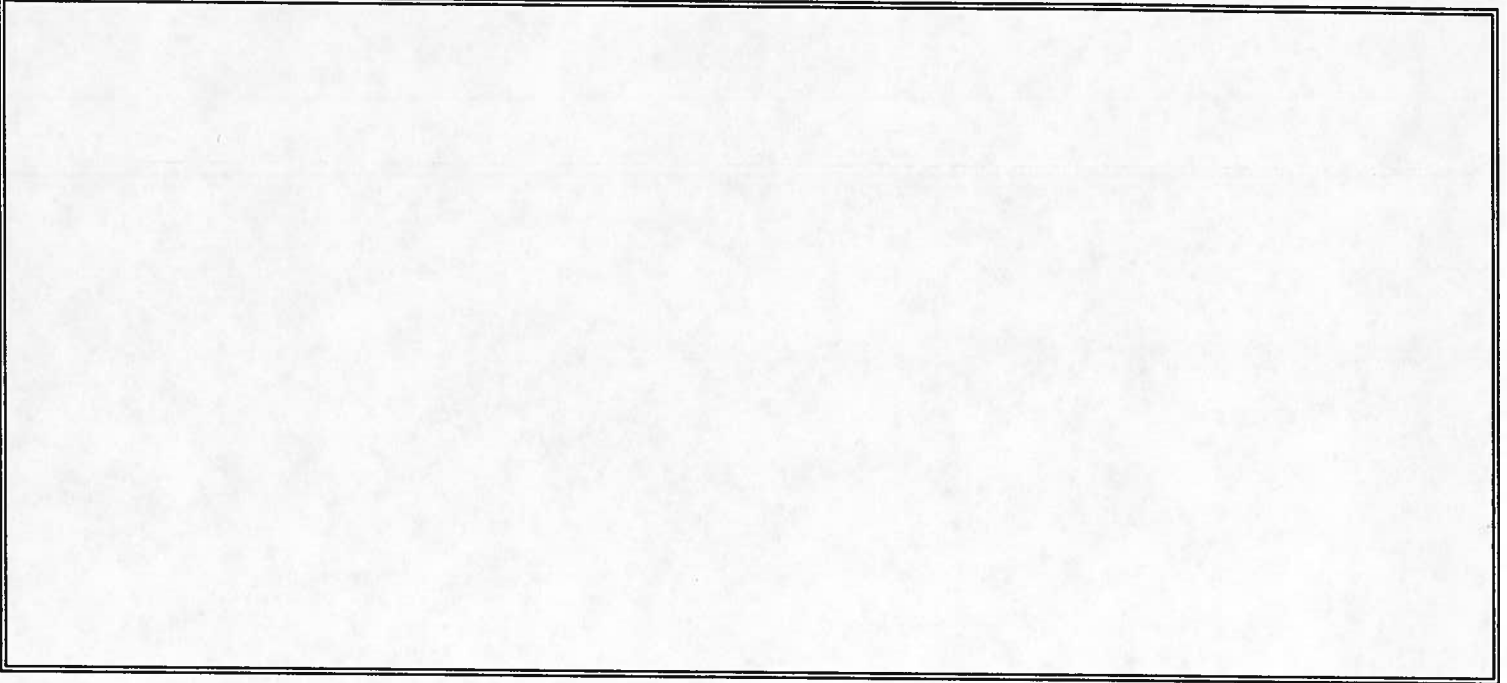
Drinking Water Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
None					
Total Primary Target Population Value					0
Total Secondary Target Population Value					0

Apportionment Documentation for a Blended System

A large, empty rectangular box with a black border, occupying the upper half of the page. It is intended for documentation or data entry related to the 'Apportionment Documentation for a Blended System' section.

PA-Score 1.0 Scoresheets  
Refueling System - 01/30/92

Page: 13

Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	0		
10. SECONDARY FISHERIES	0	0	
T =	0	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				
Total Primary Fisheries Value				0
Total Secondary Fisheries Value				0

PA-Score 1.0 Scoresheets  
Refueling System - 01/30/92

Page: 14

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	0		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	0	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				
Total Primary Sensitive Environments Value				0
Total Secondary Sensitive Environments Value				0

PA-Score 1.0 Scoresheets  
Refueling System - 01/30/92

Page: 15

Surface Water Pathway Threat Scores

Threat	Likelihood of Release(LR) Score	Targets(T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	400	5	18	0
Human Food Chain	400	0	18	0
Environmental	400	0	18	0

SURFACE WATER PATHWAY SCORE:

0

Soil Exposure Pathway Criteria List  
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u) N

Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u) Y

Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u) U

Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u) N

Does any neighboring property warrant sampling? (y/n/u) N

Other criteria? (y/n) N

RESIDENT POPULATION IDENTIFIED? (y/n) N

Summarize the rationale for Resident Population:

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No	0
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No	
Is the facility active? (y/n):	Yes	2

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	
3. RESIDENT INDIVIDUAL	0	
4. WORKERS None	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	5	
T =	5	

WASTE CHARACTERISTICS

WC =

18

RESIDENT POPULATION THREAT SCORE:

1

NEARBY POPULATION THREAT SCORE:

2

Population Within 1 Mile: 10,001 - 50,000

SOIL EXPOSURE PATHWAY SCORE:

3

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

Air Pathway Criteria List  
Suspected Release

Are odors currently reported? (y/n/u) N

Has release of a hazardous substance to the air  
been directly observed? (y/n/u) N

Are there reports of adverse health effects (e.g., headaches,  
nausea, dizziness) potentially resulting from migration  
of hazardous substances through the air? (y/n/u) N

Does analytical/circumstantial evidence suggest release to air? (y/n/u) N

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

AIR PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			No	Ref.
Distance to the nearest individual (feet):			0	
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	0			
2. NO SUSPECTED RELEASE		500		
LR =		0		

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	0	
5. NEAREST INDIVIDUAL	0	0	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	0	
8. RESOURCES	0	5	
T =		0	5

WASTE CHARACTERISTICS

WC = 

0	18
---	----

AIR PATHWAY SCORE:

1
---

PA-Score 1.0 Scoresheets  
Refueling System - 01/30/92

Page: 21

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0		0
Greater than 0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
Total Secondary Population Value			0

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
None			
Total Secondary Sensitive Environments Value			

**PA-Score 1.0 Scoresheets**  
**Refueling System - 01/30/92**

**Page: 23**

**SITE SCORE CALCULATION**

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	100
SURFACE WATER PATHWAY SCORE:	0
SOIL EXPOSURE PATHWAY SCORE:	3
AIR PATHWAY SCORE:	1
SITE SCORE:	50

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? Yes

If yes, identify the well(s).

Well #9, Well #13, Well #14, Well #15.

If yes, how many people are served by the threatened well(s)? 18139

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?

A. Drinking water intake No

B. Fishery No

C. Sensitive environment (wetland, critical habitat, others) No

If yes, identity the target(s).

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

If yes, explain:

REFERENCE LIST

1. United States Geological Survey  
West Pensacola, FLA.-ALA.  
30087-D3-TF-024
2. United States Navy 1989. Naval Technical Training Center, Corry  
Station Master Plan, Naval Complex Pensacola, Florida.
3. Meister & Associates, Inc. Consulting Engineers. Soils/Foundation  
Study Report for Mechanical Room Additions Building 1099 NTTC Corry  
Station Pensacola, Florida. May 14, 1991.
4. Lopatka, McQuang & Wall Corp. Architects and Engineers Winter Park  
Florida. Electronics Warfare Training Building (2nd Increment), Soil  
Logs & Site Details. NAVFAC Drawing No. 5027755. 1/17/74.
5. Interview with Station Personnel.
6. Delaurel & Moses Consulting Engineers, Utilites Development Plan  
Steam and Gasoline Distribution System. NAVFAC Drawing No. 601451,  
March 9, 1954.
7. Assesment of Dieldrin Contamination at Corry Field, Pensacola, Florida  
Northwest Florida Water Management District,. 1989.
8. Marsh, O.T. 1966. Geology of Escambia and Santa Rosa Counties,  
Western Florida Panhandle: Florida Geol. Survey, Bull. 46,140 p.
9. Pensacola SMSA Census Tracts Regional Council, 1980.

# PA-Score

## PA SCORESHEETS

Site Name: Free Product Area  
CERCLIS ID No.: 170024408  
Street Address: Code 1040  
City/State/Zip: PENSACOLA, FL 32511

Investigator: SCOTT HORWITZ  
Agency/Organization: NEESA/NAVY  
Street Address: CODE 112E3  
City/State: PORT HUENEME, CA

Date: 12/91

PA-Score 1.0 Scoresheets  
Free Product Area - 01/30/92

Page: 1

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 Free Product Area	Contaminated soil	Ref: 5	WQ value	maximum
Volume	5.00E+03 cu ft		7.41E-02	7.41E-02

3. Free Product Area  
1000 cft is an estimate based on the conversation with the Station  
Personnel who witnessed the incident.  
Ref: Interview with Base Personnel.

Waste Characteristics Score: WC = 18

Ground Water Pathway Criteria List  
Suspected Release

Are sources poorly contained? (y/n/u)	Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is precipitation heavy? (y/n/u)	Y
Is the infiltration rate high? (y/n/u)	Y
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	Y
Is drinking water drawn from a shallow aquifer? (y/n/u)	Y
Are suspected contaminants highly mobile in ground water? (y/n/u)	U
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	U

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

Ground water in the area is very shallow (3 feet). Thus, if contamination is present, then the area has the potential to threaten the local ground water and/or the local potable water wells located on the base.

Ground Water Pathway Criteria List  
Primary Targets

Is any drinking water well nearby? (y/n/u)	Y
Has any nearby drinking water well been closed? (y/n/u)	U
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	Y
Does any nearby well have a large drawdown/high production rate? (y/n/u)	Y
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	Y
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	Y
Does any drinking water well warrant sampling? (y/n/u)	Y

Other criteria? (y/n)      Y      Dieldrin has been found in wells

PRIMARY TARGET(S) IDENTIFIED? (y/n)      Y

Summarize the rationale for Primary Targets:

Potable water wells have been analyzed for the presence of Dieldrin contamination. Extensive studies will be conducted to determine the origin of the chemical.

Futhermore, the three areas of concern are all located below the surface. If contamination is present, then local ground water is in danger as is the potable water wells.

Ref: Northwest Florida Water Management Division.

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			Yes	Ref.
Is the site located in karst terrain? (y/n)			No	
Depth to aquifer (feet):			3	7
Distance to the nearest drinking water well (feet):			500	1
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	550			
2. NO SUSPECTED RELEASE		0		
LR =		550 0		

Targets

TARGETS	Suspected Release	No Suspected Release	References	
3. PRIMARY TARGET POPULATION 18140 person(s)	181400			
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	0	0		
5. NEAREST WELL	50	0		
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0		
7. RESOURCES	5	0		
T =		181455	0	

WASTE CHARACTERISTICS

WC =

32	0
----	---

GROUND WATER PATHWAY SCORE:

100
-----

**PA-Score 1.0 Scoresheets**  
**Free Product Area - 01/30/92**

**Page: 5**

**Ground Water Target Populations**

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
1 Well #1 - Well #9	0.10	18140	8	181400
None				
<b>Total</b>				<b>181400</b>

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
<b>Total</b>			<b>0</b>

Apportionment Documentation for a Blended System

--

Surface Water Pathway Criteria List  
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is the drainage area large? (y/n/u)	Y
Is rainfall heavy? (y/n/u)	Y
Is the infiltration rate low? (y/n/u)	Y
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	N
Are sediments or water unnaturally discolored? (y/n/u)	N
Is wildlife unnaturally absent? (y/n/u)	N
Has deposition of waste into surface water been observed? (y/n/u)	N
Is ground water discharge to surface water likely? (y/n/u)	Y
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	Y
Other criteria? (y/n)	N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

Surface Water Pathway Criteria List  
Primary Targets

Is any target nearby? (y/n/u)	If yes:	N
N Drinking water intake		
N Fishery		
Sensitive environment		

Has any intake, fishery, or recreational area been closed? (y/n/u)	N
--	---

Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u)	N
--	---

Does any target warrant sampling? (y/n/u)	If yes:	N
U Drinking water intake		
N Fishery		
Sensitive environment		

Other criteria? (y/n)	N
-----------------------	---

PRIMARY INTAKE(S) IDENTIFIED? (y/n)	N
-------------------------------------	---

Summarize the rationale for Primary Intakes:

continued -----

continued -----

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Fisheries:

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n)

Summarize the rationale for Primary Sensitive Environments:

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	No	
Distance to surface water (feet):	10560	1
Flood frequency (years):	100	2
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	0.0	
b. the nearest fishery?	0.0	
c. the nearest sensitive environment?	0.0	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		400	
LR =	0	400	

Drinking Water Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
None					
Total Primary Target Population Value					0
Total Secondary Target Population Value					0

Apportionment Documentation for a Blended System

--

Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	0		
10. SECONDARY FISHERIES	0	0	
T =	0	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				
Total Primary Fisheries Value				0
Total Secondary Fisheries Value				0

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	0		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	0	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				
Total Primary Sensitive Environments Value				0
Total Secondary Sensitive Environments Value				0

Surface Water Pathway Threat Scores

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	400	5	18	0
Human Food Chain	400	0	18	0
Environmental	400	0	18	0

SURFACE WATER PATHWAY SCORE:

0

Soil Exposure Pathway Criteria List  
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u)	N
Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u)	Y
Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u)	U
Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u)	N
Does any neighboring property warrant sampling? (y/n/u)	N

Other criteria? (y/n)                      N

RESIDENT POPULATION IDENTIFIED? (y/n)                      N

Summarize the rationale for Resident Population:

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No	0
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No	
Is the facility active? (y/n):	Yes	2

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	
3. RESIDENT INDIVIDUAL	0	
4. WORKERS None	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	5	
T =	5	

WASTE CHARACTERISTICS

WC = 18

RESIDENT POPULATION THREAT SCORE: 1

NEARBY POPULATION THREAT SCORE: 2

Population Within 1 Mile: 10,001 - 50,000

SOIL EXPOSURE PATHWAY SCORE: 3

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

Air Pathway Criteria List  
Suspected Release

Are odors currently reported? (y/n/u)	N
Has release of a hazardous substance to the air been directly observed? (y/n/u)	N
Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? (y/n/u)	N
Does analytical/circumstantial evidence suggest release to air? (y/n/u)	N
Other criteria? (y/n)	N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

AIR PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			No	Ref.														
Distance to the nearest individual (feet):			0															
<table border="1"> <thead> <tr> <th>LIKELIHOOD OF RELEASE</th> <th>Suspected Release</th> <th>No Suspected Release</th> <th>References</th> </tr> </thead> <tbody> <tr> <td>1. SUSPECTED RELEASE</td> <td>0</td> <td></td> <td rowspan="3"></td> </tr> <tr> <td>2. NO SUSPECTED RELEASE</td> <td></td> <td>500</td> </tr> <tr> <td colspan="2">LR =</td> <td>0 500</td> </tr> </tbody> </table>					LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	1. SUSPECTED RELEASE	0			2. NO SUSPECTED RELEASE		500	LR =		0 500
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References															
1. SUSPECTED RELEASE	0																	
2. NO SUSPECTED RELEASE		500																
LR =		0 500																

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	0	
5. NEAREST INDIVIDUAL	0	0	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	0	
8. RESOURCES	0	5	
T =		0 5	

WASTE CHARACTERISTICS

WC = 

0	18
---	----

AIR PATHWAY SCORE:

1
---

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0		0
Greater than 0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
Total Secondary Population Value			0

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
None			
Total Secondary Sensitive Environments Value			

PA-Score 1.0 Scoresheets  
Free Product Area - 01/30/92

Page: 23

SITE SCORE CALCULATION

	SCORE
GROUND WATER PATHWAY SCORE:	100
SURFACE WATER PATHWAY SCORE:	0
SOIL EXPOSURE PATHWAY SCORE:	3
AIR PATHWAY SCORE:	1
SITE SCORE:	50

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? Yes

If yes, identify the well(s).

Well #9, Well #13, Well #14, Well #15.

If yes, how many people are served by the threatened well(s)? 18139

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?

A. Drinking water intake

No

B. Fishery

No

C. Sensitive environment (wetland, critical habitat, others)

No

If yes, identity the target(s).

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

If yes, explain: